



# HEALTH OFFICER'S ANNUAL REPORT

OF

## Births, Marriages and Deaths,

1870.

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**Registration Department, Health Office,**  
PHILADELPHIA, January, 1871.

To the President and Members  
of the Board of Health.

GENTLEMEN:—In conformity with the provisions of Section 1 of the Act of Assembly, approved March 8th, 1860, I hereby report, through you, to City Councils, the following abstracts from the records on file in this department for the year ending December 31st, 1870.

During the past year we received and placed on record six thousand four hundred and twenty-one (6,421) marriages, seventeen thousand one hundred and ninety-four (17,194) births, and sixteen thousand seven hundred and fifty (16,750) deaths, making a sum total of forty thousand three hundred and sixty-five (40,365); and while our birth table shows a small natural increase of the population, yet we feel confident that many practitioners of midwifery do not appreciate the importance of registering their cases, and in many instances incorrect returns are made to this department, and until these parties are compelled by law to conform to the requirements of the Act of Assembly,

or more stringent laws are passed, it will be impossible to make our tables of any great value for statistical purposes.

Much credit is due to the clergymen of all denominations for the interest they have manifested, and in very few exceptions the aldermen have generally complied with the law, thus making this branch of the department as near perfect as can be attained under the present law.

By reference to our mortuary tables, it will be observed that the general sanitary condition of our City was not as favorable as the preceding year, the increase amounting to one thousand nine hundred and sixty-four, or 13.20 per cent.; this increase was not attributed to any special cause, as it was equally divided among the various diseases, and no one disease of such severity as to cause any alarm; and notwithstanding this large bill of mortality, we are satisfied that the health of our City will compare more favorably than any of the large Cities. This statement is made to disabuse the minds of those who are disposed to attribute the augmentation of deaths to the prevalence of any epidemic in our City during the year. 'Tis true we had relapsing fever in the early part of the year, and continued until mid-summer, and notwithstanding it was the subject of much unnecessary excitement, yet the mortality only amounted to one hundred and sixty-two (162), and yet very little was said of that much-dreaded disease, scarlet fever, which amounted to nine hundred and fifty-six (956), the highest that we have had since the year 1861.

#### BIRTHS.

The number of births registered during the year was seventeen thousand one hundred and ninety-four (17,194), an increase over the previous year of two hundred and thirty-four (234), or 1.37 per cent.

The number of male births was nine thousand one hundred and thirty-four (9,134), an increase over the previous year of two hundred and seventy three (273), or 3.07 per cent.; the female births during the year amounted to eight thousand and sixty (8,060), a decrease from the previous year of thirty-nine (39).

The following table will show the number of births in each month, the number of colored births, still-births, twins and triplets :

TABLE I.—BIRTHS.

1870. MONTHS.	Total.	BIRTHS.		BLACK.		STILL-BORN.		Twins.	Triplets.
		M.	F.	M.	F.	M.	F.		
January.....	1,560	849	711	11	10	43	27	12	
February .....	1,376	739	637	4	3	43	32	12	
March.....	1,358	697	661	4	2	54	33	16	1
April.....	1,262	667	595	6	3	34	20	15	
May.....	1,301	686	615	5	4	58	32	8	
June.....	1,332	705	627	6	3	41	30	11	
July .....	1,420	732	688	3	4	31	27	10	1
August.....	1,528	802	726	7	2	46	32	11	
September.....	1,504	795	709	8	2	33	16	7	
October.....	1,528	819	709	2	6	31	25	15	
November.....	1,416	772	644	3	6	39	26	15	1
December.....	1,609	871	738	3	4	36	33	8	
Total.....	17,194	9,134	8,060	62	49	489	333	140	3

*Twin-births.*—The number of twin-births amounted to one hundred and forty (140), an increase over the previous year of thirty-eight (38).

*Triplets.*—During the year three sets of triplets were reported, one set in the month of March, one in July, and one in November.

*Colored Births.*—The number of colored births registered during the year amounted to one hundred and eleven (111), a decrease from the previous year of thirty-two (32).

*Still-births.*—We have registered eight hundred and twenty-two (822) still-births; four hundred and eighty-nine (489) were males, and three hundred and thirty-three (333) were females.

The number of births in each quarter of the year was as follows:

First quarter, ending March 31st,	4,294	= 24.97 per cent.
Second " " June 30th,	3,895	= 22.66 "
Third " " Sept. 30th,	4,452	= 25.89 "
Fourth " " Dec. 31st,	4,553	= 26.48 "
Total, - - -	<u>17,194</u>	<u>= 100.</u> "

The following table presents the births in each ward during the year 1870:

TABLE II.

BIRTHS IN EACH WARD, 1870.			
First.....	601	Eleventh.....	518
Second.....	542	Twelfth.....	388
Third.....	475	Thirteenth.....	474
Fourth.....	442	Fourteenth.....	537
Fifth.....	304	Fifteenth.....	1,175
Sixth.....	310	Sixteenth.....	555
Seventh.....	697	Seventeenth.....	720
Eighth.....	296	Eighteenth.....	552
Ninth.....	329	Nineteenth.....	1,436
Tenth.....	411	Twentieth.....	1,629
Total.....			<u>17,194</u>

It will be observed from the foregoing table that the highest number of births occurred in the Twentieth Ward, one thousand six hundred and twenty-nine (1,629); then follows the Nineteenth, one thousand four hundred and thirty-six (1,436); the lowest number in the Twenty-eighth, two hundred and eighteen (218).

The average births per month during the year was 1,433  
 " " " week " " " 330  
 " " " day " " " 47

## MARRIAGES.

The number of marriages registered during the year 1870 amounted to six thousand four hundred and twenty-one (6,421), an increase over the previous year of thirty-nine (39).

The number and percentage of marriages in each quarter of the year were as follows:

First quarter, ending March 31st,	1,559	= 24.28 per cent.
Second " " June 30th,	1,516	= 23.61 "
Third " " Sept. 30th,	1,425	= 22.19 "
Fourth " " Dee. 31st,	1,921	<u>= 29.92</u> "
Total, - - -	<u>6,421</u>	<u>= 100.</u> "

The following table gives the birth-place of those married:

**TABLE III.—MARRIAGES. *Nativities of the Parties.***

BIRTH-PLACE OF GROOMS.	NATIVITIES.	BIRTH-PLACE OF BRIDES.			Total of grooms.	Percent'ge of grooms.
		U. States.	Foreign.	Not given.		
United States.	.....	3,375	286	16	3,677	59.84
Foreign.....	.....	671	1,734	9	2,414	40.16
Not given.....	.....	33	4	293	330	
Total of the brides.....	.....	4,079	2,024	318	6,421	
Percentage of brides.....	.....	66.01	33.99	.....	.....	100. =

It will be observed three thousand six hundred and seventy-seven (3,677), or 59.84 per cent. of men married were natives of the United States, of whom three thousand three hundred and seventy-five (3,375) married women of the United States, two hundred and eighty-six (286) married foreign women, and sixteen (16) married women whose nativities were unknown.

The number of men married, of foreign birth, amounted to two thousand four hundred and fourteen (2,214), or 40.16 per cent., of whom six hundred and seventy-one (671) married

women of the United States, one thousand seven hundred and thirty-four (1,734) married foreign women, and nine (9) married women whose nativities were unknown.

The number of men married whose nativities were unknown amounted to three hundred and thirty (330), of whom thirty-three (33) married women of the United States, four (4) married foreign women, and two hundred and ninety-three (293) married women whose nativities were unknown.

The number of women married who were natives of the United States was four thousand and seventy-nine (4,079), or 66.01 per cent., of whom three thousand three hundred and seventy-five (3,375) married men of the United States, two hundred and eighty-six (286) married foreign men, and sixteen (16) married men whose nativities were unknown.

Two thousand and twenty-four (2,024), or 33.99 per cent., women of foreign birth were married, of whom two hundred and eighty-six (286) married men of the United States, and one thousand seven hundred and thirty-four (1,734) married foreign men, and four (4) married men whose nativities were unknown.

The number of women married whose nativities were unknown amounted to three hundred and eighteen (318), of whom sixteen (16) married men of the United States, nine (9) married foreign men, and two hundred and ninety-three (293) married men whose nativities were unknown.

Of the whole number of persons married (of both parties), natives of the United States amounted to seven thousand seven hundred and fifty-six (7,756), while those of foreign birth amounted to four thousand four hundred and thirty-eight (4,438).

The number of marriages in which both parties were natives of the United States was three thousand three hundred and seventy-five (3,375), and the number of marriages in which both parties were of foreign birth was one thousand seven hundred and thirty-four (1,734), and the number of marriages in which the nativities of both parties were unknown amounted to two hundred and ninety-three (293).

The following table will show the ages of the parties married during the year, and their percentages:

TABLE IV.—MARRIAGES. *Age of the Parties.*

AGES OF THE MEN.	1870.	AGES OF THE WOMEN.							Total of men.	Percentage of men.
		Under 20.	20 to 25.	25 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.		
Under 20.....	17	8	.....	.....	.....	.....	.....	.....	25	.38
20 to 25.....	791	1,293	147	25	2	.....	.....	13	2,271	35.36
25 to 30.....	268	1,079	493	101	10	.....	.....	16	1,967	30.63
30 to 40.....	67	321	443	313	32	.....	1	5	1,182	18.71
40 to 50.....	2	41	66	167	72	4	.....	1	353	5.49
50 to 60.....	1	7	8	42	51	23	.....	1	133	2.07
60 to 70.....	.....	1	3	12	16	14	1	.....	47	.73
70 to 80.....	.....	.....	.....	.....	2	1	1	.....	4	.06
80 to 90.....	.....	.....	.....	.....	1	1	.....	.....	2	.03
Not given.....	.....	7	2	.....	.....	.....	.....	428	437	
Total of the women,	1,146	2,757	1,162	660	185	43	4	464	6,421	
Percentage of the women.....	17.84	42.93	18.09	10.27	2.88	.66	.06			

The number of men married under twenty was twenty-five (25), or .38 per cent., of whom seventeen (17) married women under twenty, and eight (8) married between twenty and twenty-five.

The number of men married between the age of twenty and twenty-five amounted to two thousand two hundred and seventy-one (2,271), or 35.36 per cent., of whom seven hundred and ninety one (791) married women under twenty, one thousand two hundred and ninety-three (1,293) married women between twenty and twenty-five, one hundred and forty-seven (147) married women between twenty-five and thirty, twenty-

five (25) married women between thirty and forty, two (2) married women between forty and fifty, and thirteen (13) married women whose age was not given.

The number of men married between twenty-five and thirty was one thousand nine hundred and sixty-seven (1,967), or 30.63 per cent., of whom two hundred and sixty-eight (268) married women under twenty, one thousand and seventy-nine (1,079) married women between twenty and twenty-five, four hundred and ninety-three (493) married women between twenty-five and thirty, one hundred and one (101) married women between thirty and forty, ten (10) married women between forty and fifty, and sixteen (16) married women whose age was not given.

The number of men married between thirty and forty amounted to one thousand one hundred and eighty-two (1,182), or 18.71 per cent., of whom sixty-seven (67) married women under twenty, three hundred and twenty-one (321) married women between twenty and twenty-five, four hundred and forty-three (443) married women between twenty-five and thirty, three hundred and thirteen (313) married women between thirty and forty, thirty-two (32) married women between forty and fifty, one (1) married a woman between sixty and seventy, and five (5) married women whose age was not given.

The number of men married over the age of forty amounted to five hundred and thirty-nine (539), or 8.38 per cent.

The number of women married under twenty amounted to one thousand one hundred and forty-six (1,146), or 17.84 per cent., of whom seventeen (17) married men under twenty, seven hundred and ninety-one (791) married men between twenty and twenty-five, two hundred and sixty-eight (268) married men between twenty-five and thirty, sixty-seven (67) married men between thirty and forty, two (2) married men between forty and fifty, and one (1) married a man between fifty and sixty.

The number of women married between twenty and twenty-five was two thousand seven hundred and fifty-seven (2,757), or

42.93 per cent., of whom eight (8) married men under twenty, one thousand two hundred and ninety-three (1,293) married men between twenty and twenty-five, one thousand and seventy-nine (1,079) married men between twenty-five and thirty, three hundred and twenty-one (321) married men between thirty and forty, forty-one (41) married men between forty and fifty, seven (7) married men between fifty and sixty, one (1) married a man between sixty and seventy, and seven (7) married men whose age was not given.

The number of women married between twenty-five and thirty amounted to one thousand one hundred and sixty-two (1,162), or 18.09 per cent., of whom one hundred and forty-seven (147) married men between twenty and twenty-five, four hundred and ninety-three (493) married men between twenty five and thirty, four hundred and forty-three (443) married men between thirty and forty, sixty-six (66) married men between forty and fifty, eight (8) married men between fifty and sixty, three (3) married men between sixty and seventy, and two (2) married men whose age is not given.

The number of women married between thirty and forty was six hundred and sixty (660), or 10.27 per cent., of whom twenty-five (25) married men between twenty and twenty-five, one hundred and one (101) married men between twenty-five and thirty, three hundred and thirteen (313) married men between thirty and forty, one hundred and sixty-seven (167) married men between forty and fifty, forty-two (42) married men between fifty and sixty, and twelve (12) married men between sixty and seventy.

The number of women married over the age of forty was two hundred and thirty-two (232), or 3.60 per cent.

There were four (4) women married between sixty and seventy, of whom one (1) married a man between thirty and forty, one (1) married a man between sixty and seventy, one (1) married a man between seventy and eighty, and one (1) married a man between eighty and ninety.

The ages of four hundred and thirty-seven (437) men and four hundred and sixty-four (464) women have been omitted.

The following table will give the number of marriages solemnized during the year, with the various ceremonies employed:

TABLE V.—MARRIAGES. *Ceremonies employed.*

MONTHS. 1870.	Total.	Methodist.	Catholic.	Presbyterian.	Episcopal.	Baptist.	Lutheran.	Aldermen.	German Reformed.	Judeo-penal.	Mayor.	Hebrew.	Evangelical Assoc'n.	Dutch Reformed.	Universal.	Moravian.	Congregational.	Friends.	Church of Christ.	Unitarian.	Independ't German.	Second Advent.
January.....	580	134	120	68	54	60	54	18	38	7	5	5	4	3	4	1	2	2	1	1	1	
February.....	486	102	122	43	50	33	46	24	27	10	12	8	2	2	1	2	1	1	1	1	1	
March.....	493	125	28	60	55	64	49	39	33	10	12	10	3	1	1	2	1	1	1	1	1	
April.....	472	108	85	53	39	37	44	38	37	19	2	1	5	3	3	1	1	1	1	1	1	
May.....	518	117	110	58	42	48	43	33	28	11	9	3	7	2	3	1	1	1	1	1	1	
June.....	526	115	84	75	58	50	40	37	33	13	7	3	3	1	1	1	1	2	1	1	1	
July.....	442	94	95	44	50	40	41	32	26	6	3	2	3	3	1	1	1	1	1	1	1	
August.....	421	109	100	41	37	27	36	23	28	6	1	3	1	4	2	1	1	2	1	1	1	
September.....	562	114	132	55	64	46	42	40	34	8	6	11	1	2	3	3	1	1	1	1	1	
October.....	683	164	130	77	86	48	62	34	33	20	9	7	3	6	2	2	1	1	1	1	1	
November.....	639	174	127	74	75	54	34	27	29	11	5	10	2	2	3	1	4	3	2	1	1	
December.....	599	168	72	87	76	64	34	20	31	11	11	3	3	5	2	4	1	1	3	2	2	
Total.....	6421	1524	1205	735	686	571	525	365	377	132	82	66	36	31	20	16	14	10	13	7	5	1

By reference to the above table it will be observed that the largest number of marriages were solemnized by Methodist ceremony, one thousand five hundred and twenty-four (1,524); then follows the Catholic, one thousand two hundred and five (1,205); Presbyterian, seven hundred and thirty-five (735); Episopal, six hundred and eighty-six (686); then follows the various ceremonies, making in all twenty-one different denominations.

The largest number of marriages occurred in the month of

October, six hundred and eighty-three (683), while the month of August only contributed four hundred and twenty-one (421).

The average marriages per month,	- - -	535
" " week,	- - -	123
" " day,	- - -	17

### MORTALITY.

The number of interments in the City during the year amounted to sixteen thousand seven hundred and fifty (16,750), an increase over the previous year of one thousand nine hundred and sixty-four (1,964), or 13.20 per cent.

Total number of interments during the year 1870,	-	16,750
White.... ....	15,669	
Colored.... ....	1,081	
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Total.....		16,750
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Males.....	8,787	
Females.....	7,963	
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Total.....		16,750
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Male adults.....	4,084	
Female " .....	3,841	
<hr/>		
	7,925	
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Male children.....	4,703	
Female " .....	4,122	
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	8,825	
<hr/>		
Total .....		16,750
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Deaths from registered diseases. ....		14,328
" " Still-born .....		822
" " Old age.....		588
" " Unknown, external and accidental causes..		1,012
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Total.....		16,750
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From the above estimate we find the total interments in our City were sixteen thousand seven hundred and fifty (16,750), from which deduct still-born and those brought from the country for burial within the City limits, neither of which should be included in our bills of mortality, and the following statement will show the actual mortality in our City for the year 1870:

Total interments during the year.....	16,750
Deduct still-born.....	822
“ from country .....	611
	_____ 1,433
Net deaths in City.....	15,317
	_____

Taking the net deaths in our City, fifteen thousand three hundred and seventeen (15,317), and making the basis of our calculations on the late census, six hundred and seventy-four thousand and twenty-two (674,022), we find the deaths in our City to be 1 in every 44 of the population, thus showing the health of the City to be good, notwithstanding the high bill of mortality; and if the census could be properly taken, we feel confident that the figures would have been much higher. Notwithstanding it was retaken, it is still defective, and will continue so until a plan similar to that used in England is adopted, *i. e.*, to have the entire City canvassed within a few hours; and we urge the necessity for our City Councils to take the matter in hand, and have a semi-decennial census taken, which would prove of immense value to the commercial, financial and manufacturing interests of our City, and would enable us to issue statistics of more reliable character. We have the facilities in our City for securing more correct details, and would make such a census more reliable than that made by the General Government.

By reference to the following table (No. VI.) it will be observed that the number of diseases seems to be increasing from year to year, many of which seem to be analogous, and the difficulty can never be obviated until the medical profession adopt a system of nomenclature, and confine themselves strictly to the

same. A few years ago the attention of the College of Physicians was called to the subject by the late Dr. Wilson Jewell, the originator and projector of the present Registration Law, and a member of the Board of Health, and it was referred to a Special Committee to prepare a proper nomenclature of diseases to enable the Registrar to make the proper classification, which matter still remains with said Committee, or if any action has been taken thereon no information has reached us. When the nomenclature is once adopted, and this department notified, we will then inform every physician residing in our City, and endeavor to present not only our weekly bill of mortality, but our annual report, far more correct than at present. It would astonish some of the medical faculty to examine the death register in this office, and see the disgraceful terms used by many of the practitioners of medicine. Such terms as "amonia" for "pneumonia," "still-born" for a child two days old, and many other ridiculous terms. If the medical profession of all branches would unite and use every exertion to carry out a recent law passed by our Legislature (see p. 705, Pamphlet Laws, 1870), many of the present evils would be averted, and the standard of the medical profession elevated to that standpoint that once honored the diploma as a merited tribute to one entering on the duties of his noble profession.

Statistics to be of value must be correct, and the following table has been prepared with great care, and is as accurate as can be made, taking into consideration the material we have to work upon, and we would urge all those whose duty it is to make returns to this office to be as correct as possible, and co-operate with us in correcting the evils which we have been subjected to, and have our statistics to compare favorable with those of other cities.

TABLE VI.—*Total Interments in the City*

DISEASES.	Total.	AGES.												Adults.	Minors.	Alms-house.	People of Color.				
		Males.		Females.		Boys.		Girls.		Under 1 year.											
		1	2	3	4	5	6	7	8	9	10	15	20	30	40	50	60	70	80	90	100
Abscess.....	64	34	30	6	12	5	3	5	4	1	17	10	6	4	7	2	...	...	46	18	7
Albuminuria.....	48	26	22	6	2	...	1	4	...	3	15	10	4	6	1	4	...	...	40	8	7
Anemia.....	22	9	13	4	5	6	1	...	2	...	1	...	4	2	5	1	...	...	13	9	...
Aneurism.....	3	3	1	1	1	1	...	...	...	1	1	4	2	1	1	...	...	2	1	1	2
" of the Aorta, 10	8	2	1	1	1	1	...	...	1	1	4	2	1	1	1	1	...	9	1	1	1
Anaesthesia.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Apoplexy.....	240	138	102	1	2	12	1	1	1	13	28	32	47	58	42	13	4	...	237	3	10
Asphyxia.....	52	27	25	25	25	49	1	1	1	...	2	1	3	6	5	5	1	...	2	50	2
Asthma.....	24	10	14	2	1	2	1	1	1	1	1	3	6	5	5	1	...	21	3	2	1
Bed Sores.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Burns and Scalds.....	58	29	29	20	19	5	6	17	8	2	1	8	4	4	3	...	...	19	39	...	3
Boil.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cancer.....	104	28	76	3	1	1	1	1	1	1	5	9	17	28	23	14	4	1	101	3	1
" of the Breast, 19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
" " Bladder, 1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
" " Eye, 3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1
" " Face, 2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1
" " Jaw, 1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
" " Kidneys, 3	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	3	1	1
" " Larynx, 1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
" " Lungs, 1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
" " Liver, 15	6	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	15	2	1	1
" " Mouth, 2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
" " Neck, 2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
" " Ovaries, 1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
" " Pancreas, 3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
" " Pylorus, 1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
" " Rectum, 5	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	5	5	5	5
" " S & Bowels, 52	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	52	2	1	1
" " Throat, 1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
" " Thigh, 1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
" " Uterus, 43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43
Caries of the Femur.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
" Temporal Bone, 1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
" Spine, 6	1	5	1	3	1	3	1	3	1	2	1	1	1	1	1	1	1	2	4	1	1
Cirrhosis.....	6	4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	6	6	6	6
" of the Liver, 21	16	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	21	21	21	21
Casualties.....	191	162	29	40	6	1	2	10	9	12	12	41	46	18	13	8	12	5	1	1	145
Carbuncle.....	12	9	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	9	3	1	1
Croup.....	316	177	139	177	136	29	81	165	38	1	1	1	1	1	1	1	1	3	313	1	3
Cerebro-spinal Meningitis.....	36	28	8	24	7	10	6	8	5	1	1	3	1	1	1	1	1	5	31	5	1
Chorea.....	5	5	5	4	4	4	4	4	4	1	1	2	1	1	1	1	1	1	4	4	1
Congestion.....	6	3	3	1	2	1	1	1	1	1	1	1	1	1	1	1	1	3	3	3	1
" of the Brain, 378	231	147	123	103	111	39	43	22	9	2	19	42	37	24	18	10	2	152	216	17	17
" Chest, 1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
" Heart, 4	1	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	4	4	4
" Kidneys, 1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
" Liver, 6	5	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	2	2	6
" Lungs, 154	75	79	41	44	42	20	12	6	5	9	9	13	8	13	10	6	1	69	85	7	6
" S. & Bowels, 3	2	1	2	1	2	1	2	1	1	1	1	1	1	1	1	1	1	3	3	3	3
" Spine, 4	1	3	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	3	3
Congestive Chills.....	5	2	3	2	1	1	1	2	1	1	1	1	1	1	1	1	1	2	2	3	3
Colic.....	5	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	1	1	1
Child-bed.....	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Convulsions.....	733	401	332	373	308	457	111	93	10	4	6	11	13	11	13	3	1	...	52	681	4
" Puerperal, 23	23	23	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	16	7	1	1
Consumption of Bow's.....	21	14	7	2	2	2	1	1	1	1	1	1	1	1	1	1	1	17	4	4	4
" Lungs, 2308	1118	1190	133	170	32	26	26	26	18	31	170	681	548	366	231	116	55	7	1	2005	303
" Lungs, 153	153	153	153	153	153	153	153	153	153	153	153	153	153	153	153	153	153	153	125	125	153

of Philadelphia during the year 1870.

Country.	Nativity.			WARDS.																											
	U. States.	Foreign.	Unknown.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1	42	13	9	1	6	4	1	1	1	5	2	1	2	1	2	2	4	2	2	2	2	6	1	1	1	1	2	3	8	...	
	25	15	8	1	1	2	1	1	...	10	...	1	1	...	1	2	2	5	...	2	1	3	2	...	2	1	2	7	...		
1	12	9	1	2	1	...	1	...	1	2	...	1	...	2	1	...	...	...	...	...	3	...	...	1	3	1	...	1	...		
	2	...	1	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...		
	3	6	1	...	...	...	...	...	...	1	1	...	1	...	1	...	1	1	...	1	1	...	1	...	...	...	...	1	...		
	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...		
19	115	100	25	8	10	5	4	10	8	9	8	9	4	6	7	6	11	15	4	9	8	13	16	3	7	5	5	4	6	20	...
1	50	2	...	1	4	2	4	7	...	3	...	2	1	...	1	...	2	5	1	1	3	2	2	1	...	2	3	1	...		
2	6	13	5	1	...	1	1	1	2	1	1	...	1	...	1	...	1	2	...	1	2	1	...	1	1	...	1	2	1		
	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...		
2	45	13	...	3	2	1	4	...	1	4	...	2	2	...	1	2	5	2	3	4	7	3	...	1	5	2	1	1	...		
	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
5	63	39	2	4	4	6	2	4	3	8	2	2	5	1	4	3	5	5	2	3	1	2	12	...	7	3	3	1	2	2	3
11	7	1	1	2	...	...	...	...	1	1	...	1	...	1	...	1	2	1	...	2	2	...	...	1	1	1	2	2	...		
	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	1	...		
	2	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	1	...		
	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...	...	...	...	...	1	...		
	4	8	3	...	...	...	1	1	2	1	1	...	...	1	1	...	1	1	...	1	1	...	2	...	1	2	...	...			
1	1	1	...	...	...	...	1	...	1	...	...	...	...	1	...	...	1	...	1	...	1	1	...	1	1	...	1	...			
	1	1	1	...	...	...	1	...	1	...	...	1	...	1	...	1	...	1	...	1	...	1	...	1	1	...	1	...			
	1	2	...	...	...	...	1	...	1	...	...	1	...	1	...	1	...	1	...	1	...	1	...	1	...	1	...	1	...		
	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...		
	2	3	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	1	...	1	...	1	...	2	...	1	...		
1	16	23	3	1	2	1	3	3	...	2	...	1	4	3	1	1	1	4	1	2	5	8	1	...	1	1	...	2	2	1	
	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...		
24	17	2	4	2	1	1	...	2	1	...	...	2	2	1	1	1	3	1	3	2	2	4	1	1	1	1	3	3	...		
	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...		
	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	1	...		
	3	2	1	...	1	1	1	...	1	1	...	1	...	1	...	1	...	1	...	1	...	1	...	1	...	1	...	1	...		
	4	2	...	1	1	1	...	1	...	...	...	1	...	1	1	...	1	1	...	1	...	1	...	1	...	1	...	1	...		
	5	16	...	1	1	...	1	1	2	...	2	2	...	2	1	1	1	3	1	3	...	3	...	...	2	2	...	...	...		
19	93	84	14	3	15	6	3	2	1	18	13	2	7	3	7	3	3	5	1	5	6	7	10	15	3	7	9	12	12	3	1
1	6	4	2	1	1	1	...	1	...	2	1	...	1	...	1	...	1	2	...	1	2	...	2	...	1	...	1	...	1	...	
7	310	4	2	15	17	6	18	7	4	7	3	3	13	6	9	4	4	26	5	12	13	25	18	4	18	19	12	19	13	5	4
1	33	1	2	2	3	1	3	1	...	4	1	...	1	1	2	1	2	1	...	2	4	...	...	1	...	5	...	...	...		
	4	...	1	...	...	...	...	...	...	...	...	...	...	...	2	...	...	1	1	...	1	1	...	1	1	...	1	1	...		
	5	1	2	...	...	...	...	...	...	...	...	...	...	...	1	...	...	1	...	1	...	1	...	1	1	...	1	1	...		
11	297	75	6	11	26	16	22	6	3	23	11	8	10	2	12	5	11	17	6	16	16	30	23	1	13	18	7	8	34	7	5
	1	...	1	3	...	...	...	1	...	...	...	1	...	1	...	...	...	...	1	...	1	...	...	...	...	...	...	...	...		
	3	3	...	...	...	...	1	...	...	1	...	1	...	1	...	2	1	...	1	...	1	...	1	1	...	1	1	...	1	1	
13	118	32	4	6	7	5	4	5	3	6	2	3	3	5	4	5	2	12	4	4	4	3	16	3	7	4	5	7	6	1	5
	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	1	...	1	...	1	...	1	...		
	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
	1	4	1	1	1	2	...	1	...	...	...	1	...	1	...	1	...	1	...	1	...	1	...	1	1	...	1	1	...	1	1
	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	7	5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
18	700	24	9	39	33	17	37	14	18	32	15	12	14	24	15	21	14	35	31	50	26	77	57	11	16	14	21	21	34	10	8
1	15	6	2	1	3	1	...	1	...	...	2	...	...	...	...	...	...	2	...	2	2	1	1	...	2	2	2	2	2	2	2
	15	6	...	3	1	...	...	1	1	...	1	1	...	1	1	2	...	4	2	3	...	1	1	1	1	1	1	1	1	1	1
83	1406	732	170	73	115	62	105	86	24	117	73	57	74	43	48	53	56	132	66	90	97	134	165	27	55	48	71	40	117	178	19

TABLE VI.—

*Continued.*

TABLE VI.—

*Continued.*

TABLE VI.—

DISEASES.	Total.	Males.	Females.	Boys.	Girls.	AGES.												Adults.	Minors.	Alms house.	People of Color.		
						Under 1 year.		2	5	10	15	20	30	40	50	60	70	80					
						1	2	5	10	15	20	30	40	50	60	70	80	90					
Inflammation.....	1	1	1	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1	20	
" of Brain....	413	225	188	182	155	137	89	69	27	7	8	22	24	14	3	6	5	2	76	337	13	26	
" Bronchi....	161	81	80	53	42	51	25	15	2	2	5	5	11	7	11	24	2	1	66	95	4	21	
" Bladder....	25	22	3	2	1	1	1	1	1	1	2	2	1	2	9	6	2	22	3	1	1		
" Chest....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
" Ear....	3	2	1	2	1	1	1	2	1	1	1	1	1	1	1	1	1	1	3	3	4	5	
" Heart....	36	14	22	6	9	3	1	5	2	2	2	6	6	3	3	1	1	1	21	15	4	5	
" Kidneys....	23	12	11	3	4	3	1	1	2	1	2	2	2	2	3	4	1	1	16	7	3	3	
" Knee joint....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
" Liver....	36	24	12	7	2	6	1	2	1	1	1	6	3	6	7	3	1	1	27	9	1	3	
" Lungs....	811	441	370	221	193	198	93	68	25	11	19	58	57	68	61	75	64	14	397	414	32	75	
" Larynx....	32	21	11	18	8	10	6	8	1	1	2	1	1	1	1	1	1	1	6	26	21	2	
" Peritoneum....	95	31	64	12	9	3	1	1	5	4	8	24	20	16	2	6	4	1	64	21	3	4	
" Pleura....	17	8	9	2	1	2	1	1	1	1	1	1	1	1	2	2	3	2	15	2	3	3	
" Pharynx....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
" Spine....	7	3	4	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5	2	2	2	
" Stom. & B....	281	151	130	82	55	66	26	18	10	9	8	25	28	25	25	15	18	8	144	137	15	15	
" Throat....	3	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	
" Tonsils....	9	3	6	3	6	3	2	2	2	2	2	2	2	2	2	2	2	2	9	9	2	2	
" Uterus....	18	18	18	2	1	1	1	1	1	1	1	2	8	6	2	1	1	1	16	2	1	1	
Intussusception....	6	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6	1	1	1	
Inanition....	290	138	152	115	126	214	12	8	5	1	1	9	6	10	12	5	3	4	49	241	41	19	
Intemperance....	27	18	9	1	1	1	1	1	1	1	1	1	8	7	3	5	3	1	27	1	1	4	
Insanity....	7	3	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7	1	1	1	
Jaundice....	33	20	13	9	6	15	1	1	1	1	1	2	3	4	3	3	2	1	18	15	2	3	
Leucocytæmia....	3	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	
Marasmus....	650	326	324	309	303	439	115	47	3	8	3	4	3	8	5	11	3	1	38	612	26	35	
Mania a potu....	56	51	5	5	5	5	5	5	5	5	5	11	17	17	6	4	1	1	56	6	1	1	
Malformation....	21	12	9	12	9	21	1	1	1	1	1	1	1	1	1	1	1	1	21	1	1	2	
Measles....	48	19	29	19	28	12	16	16	3	1	1	1	1	1	1	1	1	1	1	47	1	1	
Melanosis....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Murder....	17	14	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15	2	1	5	
Neuralgia....	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
" of Heart....	10	6	4	2	1	1	1	1	1	1	1	1	2	1	1	2	1	1	8	2	1	2	
Necrosis....	5	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4	1	1	1	
Neglect....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Old Age....	588	192	396	—	—	—	—	—	—	—	—	—	—	—	—	2	15	240	242	81	8	588	36
Obstruction of Bowels....	26	14	12	7	6	8	—	—	2	2	1	3	2	1	—	3	2	2	—	13	13	1	
" Liver....	1	1	1	1	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Ossification of Aorta....	1	1	1	1	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
" Heart....	4	3	1	1	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Palsy....	226	106	120	4	6	3	—	1	3	1	2	4	22	34	39	40	52	21	4	216	10	7	9
Perforation of Bowels....	1	1	1	1	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Poisoning....	6	5	1	1	1	1	—	—	—	—	—	2	1	1	1	1	1	1	6	1	1	1	
Pyemia....	43	22	21	6	6	3	1	2	3	1	2	6	7	10	4	1	3	—	31	12	4	2	
Retention of Urine....	1	1	1	1	1	1	—	—	—	—	—	—	—	—	—	—	—	—	1	1	1	1	
Rheumatism....	14	5	9	3	3	1	1	1	1	1	1	1	2	4	2	2	2	2	11	3	2	2	
" of Heart....	5	2	3	1	1	1	—	—	—	—	—	2	1	1	1	1	1	1	5	1	1	1	
Rupture....	3	1	2	1	1	1	—	—	—	—	—	1	1	1	1	1	1	1	1	2	1	1	
" of Heart....	2	1	1	1	1	1	—	—	—	—	—	1	1	1	1	1	1	1	1	1	1	1	
" Intestines....	1	1	1	1	1	1	—	—	—	—	—	1	1	1	1	1	1	1	1	1	1	1	
" Urethra....	1	1	1	1	1	1	—	—	—	—	—	1	1	1	1	1	1	1	1	1	1	1	
Serofula....	80	51	29	42	22	28	5	12	8	6	5	7	6	3	3	1	1	1	16	64	5	14	
Shock....	2	1	1	1	1	1	—	—	—	—	—	1	1	1	1	1	1	1	1	1	1	1	
Softening of Brain....	79	48	31	2	1	1	—	—	1	1	1	1	6	7	16	23	19	4	76	3	5	4	
" Bones....	1	1	1	1	1	1	—	—	—	—	—	1	1	1	1	1	1	1	1	1	1	1	
" Heart....	2	1	1	1	1	1	—	—	—	—	—	1	1	1	1	1	1	1	2	1	1	1	
" Lung....	1	1	1	1	1	1	—	—	—	—	—	1	1	1	1	1	1	1	1	1	1	1	
" Stomach....	4	3	1	2	1	1	—	—	1	1	1	1	1	1	2	1	1	1	2	2	2	2	

*Continued.*

TABLE VI.

DISEASES.	Total.	AGES.														Adults.	Minors.	Alms-house.					
		Males.	Females.	Boys.	Girls.	Under 1 year.		2	5	10	15	20	30	40	50	60	70	80	90	100	110		
						1	2	5	10	15	20	30	40	50	60	70	80	90	100	100	100		
Still-born.....	822	489	333	489	333	822	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	822	.....		
Stricture of Bowels....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....		
" Esophagus.	5	3	2	1	1	.....	.....	2	.....	.....	.....	3	.....	.....	.....	.....	1	.....	3	2	.....		
" Pylorus.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....		
" Rectum.....	2	.....	2	.....	.....	.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....	.....	2	.....	2	.....		
Strangulation.....	6	2	4	2	4	3	.....	2	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	.....		
Suicide.....	25	21	4	.....	.....	.....	.....	.....	.....	6	6	6	4	2	1	.....	.....	25	.....	1	.....		
Stone in Bladder.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....		
Suppression of Urine.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....		
Small pox.....	9	5	4	4	4	3	.....	3	1	1	.....	.....	1	.....	.....	.....	1	.....	1	8	.....		
Suffocation.....	14	11	3	6	2	6	.....	2	.....	2	1	1	.....	2	.....	.....	6	8	.....	6	8		
Sore Throat.....	8	6	2	5	2	.....	2	3	2	.....	.....	.....	1	.....	.....	.....	1	7	.....	7	.....		
" Mouth.....	10	6	4	6	4	7	2	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	1	.....	1		
Struck by Lightning.....	2	1	1	1	.....	.....	.....	1	.....	.....	.....	1	.....	.....	.....	.....	1	1	1	1	.....		
Syphilis.....	23	19	4	11	2	10	1	1	1	.....	5	3	2	.....	.....	.....	10	13	9	.....	.....		
Syncope.....	4	1	3	.....	.....	.....	.....	.....	.....	2	.....	.....	1	1	.....	.....	4	1	1	.....	.....		
Tabes Mesenterica.....	27	15	12	15	12	12	10	3	1	1	.....	.....	.....	.....	.....	.....	.....	27	.....	44	.....		
Teething.....	44	23	21	23	21	21	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	44	.....	27	.....		
Tetanus.....	44	34	10	19	8	11	1	2	3	9	1	10	2	5	.....	.....	17	27	.....	17	27		
Tumor.....	38	15	23	2	2	.....	3	.....	1	.....	5	10	6	8	2	2	1	34	4	2	.....		
Unknown.....	117	79	38	42	21	48	6	6	1	1	1	14	10	6	10	10	4	.....	54	63	8		
Uraemia.....	21	13	8	2	3	.....	1	2	2	.....	1	3	2	3	5	1	1	16	5	2	.....		
Ulceration.....	2	2	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	2	.....	1	.....	1		
" of Bladder.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....	1	.....	.....		
" of Lungs.....	1	1	.....	1	.....	.....	.....	1	.....	.....	.....	1	.....	.....	.....	.....	1	.....	1	.....	.....		
" Stom. & B.....	20	5	15	1	3	2	.....	1	.....	1	3	4	3	3	2	1	.....	16	4	.....	.....		
" Throat.....	5	2	3	1	3	.....	1	3	.....	.....	1	.....	1	.....	.....	.....	1	4	.....	1	4		
Wounds.....	3	3	.....	.....	.....	.....	.....	.....	.....	1	.....	2	.....	.....	.....	.....	3	.....	3	.....	.....		
" Gunn shot.....	13	12	1	2	1	.....	1	.....	1	1	9	1	.....	.....	.....	.....	10	3	.....	10	3		
Worms.....	1	.....	1	.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....		
Total .....	16,750	8787	7963	4703	4122	4629	1339	1464	614	300	449	1632	1491	1269	1065	1027	895	422	114	10	7925	8825	5991

The number of Deaths reported for the year 1870..... 16,750  
 White..... 15,669  
 Colored..... 1,081  
 Males..... 8,787  
 Females..... 7,963  
 From which deduct Still-born..... 16,750  
 " " " Country..... 822  
 " " " Alms-house..... 611  
 Net Deaths in City ..... 1,433  
 15,317

Continued.

Country.	Nativity.			WARDS.																											
	U. States.		Foreign.																												
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28			
7	822	....	29	27	21	54	45	14	56	26	10	19	22	14	18	23	54	30	34	33	71	69	6	28	13	19	23	42	8		
	1	....	1	2	....	....	....	....	....	....	1	....	....	....	....	....	....	1	....	1	....	1	....	....	....	....	1	....			
	3	....	1	2	....	....	....	....	....	....	1	....	....	....	....	....	....	1	....	1	....	1	....	....	....	....	....	....			
	1	....	1	1	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1			
	6	....	1	1	....	....	....	1	....	....	....	....	1	....	....	....	....	....	....	1	....	....	....	....	....	....	....	1			
3	9	12	4	2	1	....	2	....	1	2	2	....	1	....	2	....	....	....	....	3	3	1	....	1	....	....	....	1			
	1	....	1	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1			
	9	....	....	....	....	....	....	....	....	....	....	....	3	....	....	....	....	....	1	....	2	1	....	....	....	....	....	2			
	10	2	2	....	....	3	2	3	....	1	....	....	1	....	....	1	....	1	1	1	1	....	....	....	....	....	....	....	....		
1	7	1	....	2	....	....	....	....	1	....	....	1	....	....	1	....	....	1	....	1	....	2	....	1	1	....	1	....			
	10	....	....	1	1	....	....	....	1	....	....	1	....	....	....	....	....	1	....	2	....	1	....	1	....	....	....	1			
2	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....			
1	19	....	4	....	1	1	1	1	1	....	1	....	....	....	....	....	....	1	....	....	....	....	....	....	2	12	1				
	3	....	1	....	....	....	....	....	....	....	....	....	1	....	....	....	....	1	....	....	....	....	....	....	....	....	2	....			
	27	....	2	2	2	1	....	1	2	1	1	....	1	2	1	2	3	1	1	2	....	1	....	2	....	1	2	....			
1	44	....	1	7	....	5	2	1	3	....	1	....	....	....	1	1	4	1	6	1	....	....	3	4	1	1	....	1			
2	37	6	1	1	1	1	1	1	3	....	2	1	1	3	....	....	6	2	2	....	5	3	....	2	1	1	1	2			
2	26	10	2	2	2	2	....	2	....	4	1	....	1	3	2	....	2	3	4	6	....	....	....	....	....	....	....	3			
20	80	9	28	1	6	1	8	7	3	3	2	6	1	3	....	1	6	....	6	2	3	7	....	2	2	1	12	12			
3	15	4	2	1	....	....	....	3	1	....	1	....	....	....	2	1	....	1	....	....	1	4	....	....	3	....	1				
	1	....	1	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1			
	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....			
	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2			
2	12	7	1	2	....	1	2	....	2	1	1	....	....	1	2	....	1	1	1	....	1	....	1	....	1	2	....	....			
1	4	1	....	1	....	....	....	....	....	....	....	1	....	....	....	2	....	....	....	....	....	....	....	....	....	....	....	....			
	1	....	2	....	....	....	....	....	....	....	....	1	....	....	....	....	....	1	2	1	....	1	....	1	....	1	....	1			
	12	1	....	2	1	....	1	1	....	1	....	1	....	....	....	....	....	1	2	1	....	1	....	1	....	1	....	1			
	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....			
311	12,584	3273	893	635	786	422	732	586	264	896	440	321	478	359	336	369	402	1050	446	595	678	1182	1114	230	420	389	573	366	878	*936	256

The number of Male adults.....	4,084
"    "    "    Female adults.....	3,841
"    "    "    Male children.....	4,703
"    "    "    Female children.....	4,122
Deduct Still-born Males.....	489
"    "    Females .....	333
"    Country.....	611
	1,433
Net Deaths in City .....	15,317

\*Deduct deaths in Alms-house, 599, and we have the net deaths in the Twenty-seventh Ward, 337.

The mortality of adults amounted to seven thousand nine hundred and twenty-five (7,925), an increase over the previous year of one thousand two hundred and forty-two (1,242), or 17.08 per cent., while the mortality of children was eight thousand eight hundred and twenty-five (8,825), an increase over the previous year of seven hundred and twenty-two (722), or 8.91 per cent.

By reference to table VI, it will be observed that twelve thousand five hundred and eighty-four (12,584) of those died were born in the United States; three thousand two hundred and seventy-three (3,273) were of foreign birth, and eight hundred and ninety-three (893) whose nativities were unknown.

*Apoplexy*.—This was the reported cause of two hundred and forty (240) deaths, an increase over the previous year of sixty (60); one hundred and thirty-eight (138) were males, and one hundred and two (102) were females; two hundred and thirty-seven (237) were adults and three (3) were children.

*Cancer*.—The number of deaths from Cancer were two hundred and sixty-one (261), an increase over the previous year of twenty-nine (29); they were classified as follows: Cancer, one hundred and four (104); of the Breast, nineteen (19); of the Bladder, one (1); of the Eye, three (3); of the Face, two (2); of the Jaw, one (1); of the Kidneys, three (3); of the Larynx, one (1); of the Lungs, one (1); of the Liver, fifteen (15); of the mouth, two (2); of the Neck, two (2); of the Ovaries, one (1); of the Pancreas, three (3); of the Pylorus, one (1); of the Rectum, five (5); of the Stomach and Bowels, fifty-two (52); of the Throat, one (1); of the Thigh, one (1); of the Uterus, forty-three (43).

*Croup*.—Of this much-dreaded disease of children three hundred and sixteen (316) deaths were reported, an increase over the previous year of seventy-nine (79); of this number one hundred and seventy-seven (177) were males, and one hundred and thirty-nine (139) were females; the number of children under five years amounted to two hundred and seventy-five (275).

*Convulsions.*—The deaths thus classed amounted to seven hundred and thirty-three (733), an increase over the previous year of eighty-six (86); fifty-two (52) were adults, and six hundred and eighty-one (681) were children.

*Consumption of the Lungs.*—The number of deaths from Consumption amounted to two thousand three hundred and eight (2,308), an increase over the previous year of three hundred and thirty-three (333); of those died one thousand four hundred and six (1,406) were born in the United States, while those of foreign birth were seven hundred and thirty-two (732); the deaths from this disease amounted to 13.78 per cent. of the entire bill of mortality; the deaths in each month of the year were as follows:

January, . . . . .	200	July, . . . . .	179
February, . . . . .	197	August, . . . . .	177
March, . . . . .	263	September, . . . . .	135
April, . . . . .	206	October, . . . . .	153
May, . . . . .	248	November, . . . . .	214
June, . . . . .	156	December, . . . . .	180

The largest number of deaths occurred in the month of March, and the smallest number in October.

The average deaths from this disease in each month,	192
" " " " " week,	44
" " " " " day,	6

*Cholera Infantum.*—The number of deaths from this disease amounted to one thousand and two (1,002), an increase over the previous year of one hundred and seventeen (117); four hundred and eighty-two (482) were males, and five hundred and twenty (520) females; seven hundred and fifty-five (755) died under one year.

*Cholera Morbus.*—The number of deaths from this disease amounted to thirty-eight (38), a decrease from the previous year of fourteen (14); twenty-three (23) were adults, and fifteen (15) were children.

*Diphtheria.*—The number of deaths from Diphtheria was one hundred and seventy-two (172), a decrease from the previous

year of ten (10); of which number seventy-two (72) were males, and one hundred (100) were females; eight (8) were adults, and one hundred and sixty-four (164) were children; they were classified as follows:

Male adults, . . . .	4	Male children, . . . .	68
Female, " . . . .	4	Female, " . . . .	96
Deaths, first quarter,	. . . .	33	
" second "	. . . .	25	
" third "	. . . .	31	
" fourth "	. . . .	88	

*Diarrhœa*.—The number of deaths reported from this disease amounted to one hundred and ninety-one (191), an increase over the previous year of sixteen (16); of which one hundred and eleven (111) were males, and eighty (80) were females; one hundred and six (106) were adults, and eighty-five (85) were children.

*Dysentery*.—Furnishes eighty two (82), a decrease from the previous year of eight (8); forty-seven (47) were males, and thirty-five (35) were females; fifty (50) were adults, and thirty-two (32) children.

*Debility*.—The number of deaths reported under this head amounted to eight hundred and nine (809), an increase over the previous year of one hundred and seventy-three (173); of which four hundred and thirty-nine (439) were males, and three hundred and seventy (370) were females; three hundred and twenty-eight (328) were adults, and four hundred and eighty-one (481) were children.

*Fever, Relapsing*.—In the early part of the year this disease made its appearance, and increased rapidly until August, when it abated, and a few cases continued through the balance of the year; the number of deaths reported were one hundred and sixty-two (162); one hundred and twenty-one (121) were males, and forty-one (41) were females; one hundred and forty-four (144) were adults, and eighteen (18) were children; this disease seemed

to be extraordinarily fatal among the colored portion of our population, the number of deaths being one hundred and seven (107) or 66.05 per cent. of the entire number, while those of the whites only amounted to fifty-five (55) or 33.95 per cent.

*Fever, Scarlet.*—The deaths from this much dreaded disease amounted to nine hundred and fifty-six (956), an increase over the previous year of two hundred and fifty-seven (257), and the highest that has been attained in our city since the year 1861; of which four hundred and seventy (470) were males, and four hundred and eighty-six (486) were females; thirteen (13) were adults, and nine hundred and forty-three (943) were children.

Deaths, first quarter, . . . .	380
“ second “ . . . .	401
“ third “ . . . .	104
“ fourth “ . . . .	71

*Fever, Typhoid.*—The number of deaths from this disease amounted to four hundred and nine (409), an increase over the previous year of thirty-six (36); two hundred and twenty-eight (228) were males, and one hundred and eighty-one (181) were females; two hundred and fifty-eight (258) were adults, and one hundred and fifty-one (151) were children; two hundred and seventy-nine (279) were natives of the United States, one hundred and nineteen (119) were of foreign birth, and eleven (11) whose nativity were unknown.

*Fever, Typhus.*—Of this disease we have registered sixty-nine (69), an increase of twenty (20) over the previous year; forty-seven (47) were adults, and twenty-two (22) were children; forty-one (41) were males, and twenty-eight (28) were females.

*Whooping Cough.*—We have registered from this disease one hundred and five deaths, (105), an increase over the previous year of thirty-one (31); forty-five (45) were males, and sixty (60) were females.

*Hernia.*—We have registered twelve (12) deaths, a decrease from the previous year of four (4); three (3) were males, and nine (9) were females.

*Inflammation of the Brain.*—Of this disease we have reecorded four hundred and thirteen (413), an increase over the previous year of fifty-one (51); two hundred and twenty-five (225) were males, and one hundred and eighty eight (188) were females; seventy-six (76) were adults, and three hundred and thirty-seven (337) were children.

*Murder.*—We have registered seventeen (17) deaths from violence; fourteen (14) were males, and three (3) were females; fifteen (15) were adults, and two (2) were children.

*Mania-a-Potu.*—Under this head we have registered fifty-six (56) deaths; fifty-one (51) were males, and five (5) were females; sixteen (16) were born in the United States, twenty-five (25) were of foreign birth, and fifteen (15) whose nativities were unknown.

*Old Age.*—The number of deaths reported from old age amounted to five hundred and eighty-eight (588), an inerease over the previous year of one hundred and eight (108); one hundred and ninety-two (192) were males, and three hundred and ninety-six (396) were females; the excess of females over the previous year was one hundred and five (105); two hundred and sixty-nine (269) were natives of the United States, two hundred and sixty-one (261) were of foreign birth; and fifty-eight (58) whose nativities were unknown.

*Still-Born.*—The number of still-born reported were eight hundred and twenty-two (822), an inerease over the previous year of thirty-three (33); four hundred and eighty-nine (489) were males, and three hundred and thirty-three (333) were females.

*Small Pox.*—The number of deaths from this disease were nine (9), a slight increase over the previous year.

*Tetanus.*—The number of deaths from this disease amounted to forty-four (44), an inerease over the previous year of sixteen (16); seventeen adults, and twenty-seven (27) were children; thirty-four (34) were males, and ten (10) were females.

*Tumor.*—The number of deaths reported were thirty-eight (38), an increase over the previous year of seventeen (17); thirty four (34) were adults, and four (4) were children.

*Teething.*—The number of deaths from teething amounted to forty-four (44), an increase over the previous year of twelve (12); twenty-three (23) were males, and twenty-one (21) were females.

*Wounds, Gun Shot.*—The deaths from gun shot wounds were thirteen (13), an increase of six (6) over the previous year.

The following table shows the percentage of deaths during certain specified periods of life, compared with a similar statement of the mortality in the year 1869.

TABLE VII.

1869.					1870.		
Under	1 year,	4,324	Being	29.24 per cent.	4,629	Being	27.63 per cent.
1 to	2 "	1,279	"	8.65 "	1,339	"	7.90 "
2 "	5 "	1,292	"	8.74 "	1,464	"	8.74 "
5 "	10 "	562	"	3.12 "	644	"	3.84 "
10 "	15 "	260	"	1.75 "	300	"	1.79 "
15 "	20 "	386	"	2.61 "	449	"	2.68 "
20 "	30 "	1,408	"	9.52 "	1,632	"	9.74 "
30 "	40 "	1,251	"	8.46 "	1,491	"	8.90 "
40 "	50 "	1,020	"	6.89 "	1,269	"	7.57 "
50 "	60 "	882	"	5.96 "	1,065	"	6.35 "
60 "	70 "	896	"	6.05 "	1,027	"	6.13 "
70 "	80 "	742	"	5.01 "	895	"	5.34 "
80 "	90 "	402	"	2.71 "	422	"	2.51 "
90 "	100 "	76	"	.50 "	114	"	.68 "
100 "	110 "	6	"	.04 "	10	"	.05 "
Total.....		14,786	.....	.....	16,750	.....	.....

It will be observed from the foregoing table, that four thousand six hundred and twenty-nine (4,629), or 27.63 per eent. of all the deaths were of children under one year of age; one thousand three hundred and thirty-nine (1,339), or 7.90 per eent., between the age of one and two; one thousand four hundred and sixty-four (1,464), or 8.74 per eent., between the age of two and five; six hundred and forty-four (644), or 3.84 per eent., between the age of five and ten; three hundred (300), or 1.79 per eent., between the age of ten and fifteen; four hundred and forty nine (449), or 2.68 per eent., between the age of fifteen and twenty; one thousand six hundred and thirty-two (1,632), 9.74 per eent., between the age of twenty and thirty; one thousand four hundred and ninety-one (1,491), or 8.90 per eent., between the age of thirty and forty; one thousand two hundred and sixty-nine (1,269), or 7.57 per eent., between the age of forty and fifty; one thousand and sixty-five (1,065), or 6.35 per eent., between the age of fifty and sixty; one thousand and twenty-seven (1,027), or 6.13 per eent., between the age of sixty and seventy; eight hundred and ninety-five (895), or 5.34 per eent., between the age of seventy and eighty; four hundred and twenty-two (422), or 2.51 per eent., between the age of eighty and ninety; one hundred and fourteen (114) or .68 per eent., between the age of ninety and one hundred; ten (10), or .05 per eent., between the age of one hundred and one hundred and ten.

The total number of children under ten years was eight thousand and seventy-six (8,076), or 48.11 per eent. of the total mortality, while those over the age of seventy amounted to one thousand four hundred and forty-one (1,441), or 8.58 per eent.; the following eomparative statement of the deaths in each quarter of the year, will prove of interest in eonnection with the mortality of children.

	Adults.	Children.	Excess Of Children.	Total.
First quarter,	2,220	2,181		4,401
Second “	2,079	2,166	87	4,245
Third “	1,908	2,994	1,086	4,902
Fourth “	1,718	1,484		3,202
	7,925	8,825		16,750

It will be observed that during the third quarter the mortality of children amounted to one thousand and eighty-six (1,086), or 36.27 per cent. in excess of adults; this large mortality occurred in the summer months, and on reference to our mortuary tables we find the principal causes of deaths were diseases of the bowels so prevalent at this season, and can be attributed, and very justly, to the unwise, imprudent and indiscriminate purchase of green fruit which our markets are glutted with in the early part of the season; the sale of this poison is enormous and is a more serious matter than many suppose, and it would be well if our city authorities would turn their attention to the subject and pass such stringent laws as to prevent the sale of unripe fruit anywhere within the limits of the City.

The following table of mortality in each ward, with population according to the late census, with the ratio of deaths to population and the percentage of deaths in each ward to the total mortality.

TABLE VIII.—*Deaths in each Ward.*

WARDS.	Population.	Deaths.	Deaths to population.	Percentage of deaths to total mortality.
First.....	25,817	635	1 in 41	3.79
Second .....	30,220	786	1 in 38	4.69
Third .....	19,149	422	1 in 45	2.51
Fourth.....	20,852	732	1 in 29	4.37
Fifth .....	18,736	586	1 in 32	3.49
Sixth.....	12,064	264	1 in 46	1.57
Seventh.....	31,558	896	1 in 35	5.33
Eighth.....	22,286	440	1 in 50	2.62
Ninth.....	16,629	321	1 in 52	1.91
Tenth.....	23,312	478	1 in 48	2.85
Eleventh .....	14,845	359	1 in 41	2.14
Twelfth.....	15,171	336	1 in 45	2.00
Thirteenth .....	19,956	369	1 in 54	2.20
Fourteenth.....	22,643	402	1 in 56	2.40
Fifteenth.....	44,650	1,050	1 in 42	6.26
Sixteenth.....	19,256	446	1 in 43	2.66
Seventeenth .....	21,347	595	1 in 36	3.55
Eighteenth .....	26,366	678	1 in 38	4.04
Nineteenth.....	45,240	1,182	1 in 38	7.05
Twenty-tieth .....	56,642	1,114	1 in 51	6.65
Twenty-first .....	13,861	230	1 in 60	1.37
Twenty-second.....	22,605	420	1 in 53	2.57
Twenty-third .....	20,888	389	1 in 53	2.32
Twenty-fourth .....	24,932	573	1 in 43	3.42
Twenty-fifth.....	18,639	366	1 in 51	2.18
Twenty-sixth .....	36,603	878	1 in 42	5.24
Twenty-seventh .....	19,385	337	1 in 57	2.01
Twenty-eighth.....	10,370	256	1 in 40	1.52
Almshouse.....		599		
Country.....		611		
Total deaths for 12 months.....		16,750		
Total population.....	674,022			

Ratio of deaths to population, 1 in 44.

The highest mortality occurred in the Fourth Ward—one in every twenty-nine of the population ; while the Twenty-first Ward being the lowest—one in every sixty of the population ; the average deaths in each ward was five hundred and five (505), and the 1st, 2d, 4th, 5th, 7th, 15th, 18th, 19th, 20th, 24th and 26th each contributed over that amount.



TABLE IX.—*The number of Deaths in each week, in the City of*

1870.			AGES.																		Adults.			Minors.			Alms house.			People of Color.						
Weeks ending.	Total.	Males.	Females.	Boys.	Girls.	Under 1 year.	2	5	10	15	20	30	40	50	60	70	80	90	100	110	2	5	10	15	20	30	40	50	60	70	80	90	100	110		
	January	8	309	159	150	81	75	56	23	44	15	7	11	33	23	22	18	23	22	9	3	153	156	11	13	15	15	15	15	15	15	15	15	15	15	
"	15	323	166	157	78	66	80	8	33	13	3	7	38	23	24	37	22	19	15	1	159	144	6	13	15	15	15	15	15	15	15	15	15	15		
"	22	330	155	177	71	91	73	23	36	14	6	10	28	37	16	28	27	15	16	1	168	162	8	13	15	15	15	15	15	15	15	15	15	15		
"	29	325	172	153	81	65	71	19	29	16	2	9	44	22	36	20	21	22	11	3	179	146	10	13	15	15	15	15	15	15	15	15	15	15		
February	5	323	172	151	90	66	72	29	28	16	4	7	33	35	24	27	15	20	10	3	167	156	13	13	15	15	15	15	15	15	15	15	15	15		
"	12	324	185	139	101	67	84	23	35	17	4	5	28	22	26	25	23	22	7	3	156	168	13	13	15	15	15	15	15	15	15	15	15	15		
"	19	343	176	167	98	83	74	27	41	24	6	9	29	23	28	21	31	19	6	4	1	162	181	20	13	15	15	15	15	15	15	15	15	15	15	
"	26	358	190	168	95	78	80	33	30	12	7	11	36	32	38	25	27	14	11	2	185	173	12	12	15	15	15	15	15	15	15	15	15	15		
March	5	332	175	157	99	79	87	29	35	13	7	7	36	28	24	17	27	18	2	154	178	22	13	15	15	15	15	15	15	15	15	15	15			
"	12	366	195	171	102	82	79	32	35	15	11	12	48	27	30	19	23	19	13	3	182	184	20	13	15	15	15	15	15	15	15	15	15	15		
"	19	380	195	185	109	81	93	18	48	14	9	8	32	37	33	29	25	18	11	5	190	190	15	13	15	15	15	15	15	15	15	15	15	15		
"	26	362	196	166	88	85	80	24	33	18	6	12	46	26	39	22	28	3	3	189	173	17	13	15	15	15	15	15	15	15	15	15	15			
April	2	326	171	155	85	85	78	23	41	18	4	6	26	33	24	18	20	18	15	2	156	170	18	13	15	15	15	15	15	15	15	15	15	15		
"	9	328	177	151	95	68	73	21	41	18	5	8	35	35	25	23	12	21	7	4	162	166	16	13	15	15	15	15	15	15	15	15	15	15		
"	16	344	175	169	106	90	84	31	42	23	8	8	30	27	25	21	12	23	6	4	148	196	17	13	15	15	15	15	15	15	15	15	15	15		
"	23	338	193	145	91	85	88	21	44	10	7	6	49	29	24	21	18	16	4	1	162	176	13	13	15	15	15	15	15	15	15	15	15	15		
"	30	328	178	150	89	64	63	22	43	11	8	6	44	33	30	16	22	20	9	1	175	153	16	13	15	15	15	15	15	15	15	15	15	15		
May	7	332	159	173	71	91	65	27	49	18	4	8	39	37	31	15	23	18	6	1	170	162	21	13	15	15	15	15	15	15	15	15	15	15		
"	14	333	185	148	84	65	71	21	30	14	6	7	31	30	34	30	26	14	15	2	2	184	149	19	13	15	15	15	15	15	15	15	15	15	15	
"	21	373	206	167	106	81	79	22	54	14	10	8	37	39	28	20	23	28	9	2	186	187	9	3	13	15	15	15	15	15	15	15	15	15	15	15
"	28	315	162	153	85	78	71	24	34	14	8	12	29	33	27	21	19	17	5	1	152	163	17	13	15	15	15	15	15	15	15	15	15	15		
June	4	282	159	123	81	64	68	16	32	15	5	9	31	34	21	20	13	15	3	137	145	16	12	15	15	15	15	15	15	15	15	15	15	15		
"	11	255	139	146	80	77	81	22	28	11	6	9	25	26	24	18	19	9	6	1	128	157	9	3	13	15	15	15	15	15	15	15	15	15	15	
"	18	253	142	111	73	55	62	15	20	11	12	8	22	24	21	14	23	14	7	1	125	128	14	12	15	15	15	15	15	15	15	15	15	15		
"	25	320	162	158	77	82	83	18	24	17	9	8	27	34	21	16	15	12	4	1	161	159	25	13	15	15	15	15	15	15	15	15	15	15		
July	2	414	212	202	116	109	133	25	34	19	7	7	49	46	46	24	24	21	18	6	1	189	225	12	13	15	15	15	15	15	15	15	15	15	15	
"	9	355	196	159	114	81	116	25	24	16	6	8	29	33	26	24	22	13	9	4	1	160	195	9	13	15	15	15	15	15	15	15	15	15	15	
"	16	349	201	148	122	97	139	37	16	8	10	9	27	28	17	15	22	15	4	2	130	219	5	13	15	15	15	15	15	15	15	15	15	15		
"	23	601	315	286	202	189	250	72	30	13	10	16	43	56	31	24	29	16	7	3	1	210	391	21	13	15	15	15	15	15	15	15	15	15	15	
"	30	611	329	282	199	181	266	61	25	9	8	11	37	52	38	33	29	27	11	4	1	231	380	19	13	15	15	15	15	15	15	15	15	15	15	
August	6	431	204	227	136	163	203	56	18	11	4	9	29	21	23	16	13	12	15	1	130	301	9	13	15	15	15	15	15	15	15	15	15	15		
"	13	432	237	195	162	127	204	46	17	7	5	10	33	29	23	14	16	19	6	3	143	289	11	13	15	15	15	15	15	15	15	15	15	15		
"	20	376	199	177	128	120	150	57	16	9	1	15	32	28	13	18	15	9	11	2	128	248	10	13	15	15	15	15	15	15	15	15	15	15		
"	27	317	163	154	99	106	43	20	7	7	10	27	26	21	15	19	8	7	1	124	193	5	13	15	15	15	15	15	15	15	15	15	15			
Septem'r	3	335	168	167	110	94	116	40	21	11	6	10	28	30	19	24	11	14	5	...	131	204	9	13	15	15	15	15	15	15	15	15	15	15		
"	10	281	148	133	80	69	86	28	20	4	1	10	28	15	22	21	14	9	2	132	149	9	13	15	15	15	15	15	15	15	15	15	15			
"	17	279	142	137	74	62	63	32	17	8	7	9	29	31	22	23	14	11	9	4	143	136	5	13	15	15	15	15	15	15	15	15	15	15		
"	24	265	129	136	68	70	66	34	14	10	5	9	25	19	20	16	22	17	6	2	127	138	4	13	15	15	15	15	15	15	15	15	15	15		
October	1	270	137	133	69	82	93	18	13	9	5	13	21	25	23	12	14	19	3	1	1	119	151	8	13	15	15	15	15	15	15	15	15	15	15	
"	8	231	136	95	68	45	68	18	13	9	1	4	24	21	19	11	10	9	3	...	118	113	7	13	15	15	15	15	15	15	15	15	15	15		
"	15	229	118	111	68	47	61	20	12	11	1	10	25	23	15	12	19	15	5	...	114	115	5	13	15	15	15	15	15	15	15	15	15	15		
"	22	235	126	109	69	43	48	13	25	9	2	6	32	29	24	9	17	12	5	3	1	122	113	10	13	15	15	15	15	15	15	15	15	15	15	
"	29	235	122	113	57	56	61	10	27	5	6	4	26	21	17	14	19	15	7	2	1	129	101	7	13	15	15	15	15	15	15	15	15	15	15	
Novem'r	5	230	122	108	57	44	53	13	16	11	3	5	29	23	23	14	15	15	7	2	1	129	101	7	1											

Philadelphia, with the Age, Sex, Nativity and Wards, for the year 1870.

Nativity.			WARDS.																													
U. States.	Foreign.	Unknown.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28		
8	225	69	15	10	12	5	11	10	5	19	8	8	11	9	7	6	6	26	7	8	17	27	21	3	5	5	9	9	18	14	5	
1	229	83	11	14	14	4	15	8	4	21	9	9	17	8	7	8	7	20	11	14	15	25	12	3	8	15	7	6	18	11	2	
5	252	69	9	11	19	7	10	12	4	22	12	10	8	5	11	9	3	24	10	15	12	25	22	1	6	7	10	14	15	9	2	
2	233	75	17	5	13	10	14	12	4	11	11	12	17	4	6	4	4	14	15	8	19	26	25	3	7	10	10	9	20	17	3	
4	226	76	21	7	14	11	11	10	5	15	7	8	7	6	10	2	9	24	3	11	13	22	22	1	8	7	14	5	27	17	3	
1	244	68	12	6	12	11	18	16	2	18	10	7	13	6	5	6	8	25	11	6	14	25	23	4	9	7	10	4	15	19	3	
9	248	73	22	5	15	10	19	11	8	14	10	8	11	7	4	5	7	16	12	15	14	23	24	5	9	3	21	11	17	23	7	
2	260	85	13	11	20	7	15	7	8	23	10	5	6	9	6	11	8	27	11	16	21	23	22	8	9	9	9	7	14	18	6	
9	262	49	21	17	19	8	11	6	5	14	13	10	6	6	9	8	11	6	21	6	5	11	26	24	1	8	8	12	7	20	27	4
8	264	71	31	9	14	11	11	15	10	16	7	6	14	11	7	11	7	26	11	13	12	22	23	7	6	9	11	13	18	26	2	
5	293	70	17	22	16	10	16	15	7	21	5	5	20	10	12	6	5	40	9	11	11	16	18	4	7	5	10	6	22	23	4	
1	262	71	29	9	16	5	16	18	6	23	7	5	7	4	6	11	12	25	14	17	19	21	27	5	10	6	11	8	17	21	5	
0	252	52	22	15	17	11	13	11	6	12	3	4	12	10	8	5	9	13	9	9	15	22	21	3	9	8	15	5	25	25	1	
0	233	67	28	17	20	9	22	10	5	18	10	3	10	8	5	6	8	21	5	14	15	23	24	4	5	5	8	17	6	18	21	2
9	269	60	15	11	15	9	17	11	4	20	8	2	13	2	11	5	18	19	15	12	15	12	32	7	5	8	3	11	11	17	14	4
0	242	69	27	15	9	6	16	9	7	15	12	14	4	6	8	14	28	10	7	15	30	19	3	8	3	13	10	16	27	4		
2	242	65	21	11	13	6	17	11	7	18	5	9	13	4	10	10	8	12	10	10	9	22	22	7	5	8	14	7	18	29	2	
3	236	67	29	9	18	6	14	10	2	14	9	6	13	8	9	8	6	22	5	10	18	22	20	7	5	8	14	7	18	29	2	
8	230	69	34	13	15	9	18	8	4	12	9	5	12	9	6	8	5	23	9	12	16	18	15	5	7	11	12	6	20	31	7	
4	281	74	18	9	20	8	19	11	7	20	10	5	8	3	7	13	9	24	18	14	9	30	29	3	8	5	11	6	27	25	11	
1	231	64	20	6	20	6	16	13	3	16	9	2	11	4	7	9	4	32	9	6	8	23	16	4	5	5	12	7	18	23	9	
1	214	47	21	8	11	10	12	11	4	19	15	3	10	6	8	5	7	11	5	14	13	16	19	19	7	8	9	3	11	20	6	
7	215	58	10	14	8	9	8	9	1	16	2	5	7	4	8	5	10	18	8	15	10	25	18	7	5	8	9	8	18	22	7	
6	187	46	20	9	7	2	9	9	3	13	9	5	8	4	6	5	13	19	18	9	9	15	21	14	1	2	6	9	6	11	9	4
0	231	50	39	13	12	6	12	16	3	17	8	6	8	9	7	4	9	16	22	6	12	16	19	20	3	6	3	6	4	14	28	9
9	316	79	13	24	13	22	18	8	21	6	7	7	4	7	9	4	22	9	14	13	40	31	2	9	9	6	6	16	11	14		
5	271	69	15	14	24	10	13	13	7	21	8	3	5	5	5	6	7	7	24	13	22	18	27	20	2	7	8	8	7	21	10	8
6	281	63	5	20	19	12	16	12	6	23	16	4	5	15	4	7	9	6	12	9	17	22	25	7	5	8	8	8	30	39	6	
1	468	104	29	24	23	12	21	24	9	29	20	19	11	13	16	13	47	21	32	19	49	40	6	19	5	13	8	30	39	6		
0	478	117	16	21	22	19	23	23	15	33	19	10	23	18	19	7	19	40	11	23	20	49	50	13	8	13	12	10	31	22	8	
0	349	67	15	27	9	17	13	1	21	13	6	10	13	5	8	8	8	27	10	17	12	33	31	12	13	14	23	7	17	20	9	
3	355	61	16	19	24	4	18	13	9	20	8	7	12	10	6	10	8	26	15	16	23	31	25	5	17	13	19	8	19	17	6	
1	306	52	18	14	22	14	18	8	6	19	9	5	8	7	9	8	9	27	11	18	12	21	28	4	11	8	18	9	16	17	6	
0	255	48	14	19	18	10	14	10	5	18	9	6	7	5	5	6	4	21	6	7	15	17	30	3	9	10	12	4	13	11	3	
9	258	64	13	16	18	10	17	15	7	16	7	6	7	5	3	14	4	12	10	10	9	23	23	7	7	14	22	14	4	4	4	
1	221	44	16	14	8	4	13	16	1	13	10	2	7	4	5	5	7	5	20	5	8	11	24	21	6	4	8	7	7	11	16	13
2	207	65	7	11	11	10	10	10	2	13	9	6	7	4	3	7	4	12	4	12	10	14	24	7	11	9	16	5	13	17	6	
0	207	50	8	12	13	6	11	9	5	19	6	5	10	7	1	2	9	22	5	8	14	19	10	2	6	8	13	12	12	9	1	
1	198	57	15	19	19	5	10	10	3	10	9	7	8	9	4	3	7	5	7	7	10	24	13	5	9	7	9	6	29	15	..	
7	175	49	7	7	6	5	7	12	6	12	5	4	6	5	3	6	3	16	8	9	7	23	20	2	7	4	7	4	14	11	5	
9	173	51	5	10	11	8	10	8	2	12	6	7	6	7	5	6	5	9	5	8	3	14	23	..	13	9	6	7	12	9	3	
1	176	48	11	5	9	6	7	12	3	14	1	5	9	5	4	4	7	15	3	14	5	20	14	2	14	8	8	7	10	10	10	
1	171	51	13	16	16	5	7	11	3	13	2	4	6	4	4	3	9	9	7	3	17	10	11	9	8	8	7	8	9	14	3	
2	167	47	16	10	13	6	10	10	5	11	7	6	3	6	4	4	11	12	2	5	9	14	14	1	5	2	11	9	5	13	20	
1	172	63	21	7	5	8	7	8	7	13	6	3	5	5	6	3	8	18	6	12	6	21	23	2	9	11	9	5	13	20	3	
1	182	53	11	11	15	19	5	2	14	6	3	6	6	5	6	2	15	5	7	13	14	16	4	7	6	8	4	9	15	3		
1	171	54	15	8	19	6	11	11	5	20	4	5	5	6	4	4	8	9	5	7	14	13	10	6	3	4	9	5	17	10	4	
1	193	53	10	10	16	14	8	10	6	11	4	5	4	6	7	9	8	17	5	4	7	21	17	2	10	5	4	7	13	14	3	
1	169	56	16	13	12	5	10	7	4	16	8	4	7	4	5	8	4	15	3	7	8	18	10	5	5	5	14	5	16	18	1	
1	197	58	11	10	9	3	19	8	6	20	9	4	5	10	6	7	5	17	9	15	12	17	18	5	4	5	11	3	7	12	3	
1	195	46	16	10	6	3	13	5	1	16	6	7	4	7	3	3	4	8	12	6	4	10	21	26	8	9	9	13	4	17	15	2
2	210	57	13	8	15	9	21	6	6	21	9	8	7	3	3	8	5	13	10	11	12	19	9	1	9	5	10	3	20	14	4	

TABLE X.—DEATHS. *Adults and Children.*

1870.	Males.	Females.	Adults.	Children.	Total.
MONTHS.					
January, . . . .	650	637	679	608	1,287
February, . . . .	723	625	670	678	1,348
March, . . . . .	932	834	871	895	1,766
April, . . . . .	723	615	647	691	1,338
May, . . . . .	871	764	829	806	1,635
June, . . . . .	655	617	603	669	1,272
July, . . . . .	1,041	875	731	1,185	1,916
August, . . . . .	971	920	656	1,235	1,891
September, . . . .	556	539	521	574	1,095
October, . . . . .	502	428	486	444	930
November, . . . .	638	590	692	536	1,228
December, . . . .	525	519	540	504	1,044
	8,787	7,963	7,925	8,825	16,750
	<u>16,750</u>		<u>16,750</u>		
Excess of males over females, . . . . .					824
Excess of children over adults, . . . . .					900

It will be observed from the foregoing table that the number of male deaths amounted to eight thousand seven hundred and eighty seven (8,787), and the number of females seven thousand nine hundred and sixty-three (7,963), an excess of males of eight hundred and twenty-four (824).

The number of children that died amounted to eight thousand eight hundred and twenty-five (8,825), an excess of nine hundred (900) over that of adults, and when compared with the entire mortality is equal to 52.68 per cent., or more than one-half of the total deaths in the city.

TABLE XI.

*Marriages, Births and Deaths for each month.*

MONTHS.	Marriages.	Births.	Deaths.
January, . . . . .	580	1,560	1,287
February, . . . . .	486	1,376	1,348
March, . . . . .	493	1,358	1,766
April, . . . , . . .	472	1,262	1,338
May, . . . . .	518	1,301	1,635
June, . . . . .	526	1,332	1,272
July, . . . . .	442	1,420	1,916
August, . . . . .	421	1,528	1,891
September, . . . . .	562	1,504	1,095
October, . . . . .	683	1,528	930
November, . . . . .	639	1,416	1,228
December, . . . . .	599	1,609	1,044
Total, . . . . .	6,421	17,194	16,750

The following table will show a general summary of the returns of the Department for the past ten years and six months.

TABLE XII.

YEARS.	Births.	Marriages.	Deaths.
1860 (Six Months), . . .	8,434	2,310	6,342
1861, . . . . .	17,271	4,417	14,468
1862, . . . . .	14,741	4,662	15,097
1863, . . . . .	15,293	5,474	15,788
1864, . . . . .	15,591	6,752	17,582
1865, . . . . .	15,428	6,864	17,169
1866, . . . . .	17,437	7,087	16,803
1867, . . . . .	17,007	6,084	13,933
1868, . . . . .	17,259	6,371	14,693
1869, . . . . .	16,960	6,382	14,786
1870, . . . . .	17,194	6,421	16,750
Total, . . . . .	172,615	62,824	163,411

The foregoing table shows the number of Births, Marriages and Deaths recorded during the past ten years and six months ; Births, one hundred and seventy-two thousand six hundred and fifteen (172,615) ; Marriages, sixty-two thousand eight hundred and twenty-four (62,824) ; and Deaths, one hundred and sixty-three thousand four hundred and eleven (163,411) ; previous to the year 1866, for several years the deaths exceeded the births, but since that year the births have exceeded the deaths, showing a steady natural increase of our population ; and if the births could be had more perfect, the excess would be far more satisfactory.

Respectfully submitted,

JOHN E. ADDICKS, *Health Officer.*

Attest: GEO. E. CHAMBERS, *Registrar.*





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MEMBERS AND OFFICERS  
OF  
THE BOARD OF HEALTH  
OF THE  
CITY AND PORT OF PHILADELPHIA,

*For the Year 1871.*

**O F F I C E R S .**

PRESIDENT,

SECRETARY,

HENRY DAVIS. CHAS. B. BARRETT.

**M E M B E R S .**

JAMES STEEL,	THOS. STEWARDSON, M.D.,
JAMES A. McCREA, M.D.,	CONRAD S. GROVE,
RENE LA ROCHE, M.D.,	EDWARD BENNETT,
JAMES WEST,	SAMUEL T. CANBY,
HORATIO G. SICKEL,	WILLIAM H. FORD, M.D.



**STANDING COMMITTEES.**

*Sanitary.*

McCREA,	BARRETT,	LA ROCHE,	STEWARDSON,
		STEEL,	FORD.

*Lazaretto.*

STEEL,	WEST,	GROVE,	McCREA,	BENNETT.
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*Poudrette.*

BARRETT,	GROVE,	SICKEL.
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*Accounts.*

STEEL,	BENNETT,	CANBY.
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*Office and Library.*

BARRETT,	BENNETT,	WEST.
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*Burial Grounds and Registration.*

BARRETT,	McCREA,	STEWARDSON.
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*Street Cleaning.*

DAVIS,	STEEL.	BARRETT,	GROVE,	FORD.
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### DISTRICT COMMITTEES.

No. 1.—1st, 2d, 3d, 4th, 5th, 7th, 8th, and 26th Wards,  
**SICKEL, WEST, LA ROCHE.**

No. 2.—6th, 9th, 10th, 11th, 12th, 13th, 14th, and 15th Wards.  
**McCREA, STEWARDSON, STEEL.**

No. 3.—20th, 21st, 22d, 24th, 27th, 28th, and 29th Wards.  
**CANBY, GROVE, BARRETT.**

No. 4.—16th, 17th, 18th, 19th, 23d and 25th Wards.  
**BENNETT, DAVIS, FORD.**

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### EXECUTIVE OFFICERS.

*Health Officer,*

**JOHN E. ADDICKS.**

*Port Physician,*

**H. ERNEST GOODMAN, M.D.**

*Lazaretto Physician.*

**J. HOWARD TAYLOR, M.D.**

*Quarantine Master,*

**J. H. GIHON, M.D.**

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### ELECTIVE OFFICERS.

*Chief Clerk,*

**WILLIAM P. TROTH.**

*Assistant Clerks,*

**AUGUSTINE T. LYNCH, ROBERT CARNES.**

*Registrar,*

**GEORGE E. CHAMBERS.**

*Registration Clerks,*

**CHAS. WIRGMAN, HAM'N PATTERSON, CHAS. W. MURRAY.**

*Physician in Charge, Municipal Hospital,*

**WILLIAM M. WELCH, M.D.**

*Steward of Lazaretto,*

**LEWIS KUGLER.**

*Matron of Municipal Hospital,*

**LYDIA TOMLINSON.**

*Measurers,*

**CONRAD B. ANDRESS, JOHN S. THACKARA.**

*Nuisance Inspectors,*

1st, 2d, 3d, 4th, 5th, 7th, 8th, and 26th Wards,

**WILLIAM L. WILLIAMS.**

6th, 9th, 10th, 11th, 12th, 13th, 14th, and 15th Wards,

**MERRITT GIBSON,**

16th, 17th, 18th, 19th, 23d, and 25th Wards,

**PETER K. YOUNG.**

20th, 21st, 22d, 24th, 27th, and 28th Wards,

**SYLVESTER H. MARTIN.***Night Inspector,***J A C O B K I P L E.***Messengers,***ANDREW McDOLE,****SAMUEL T. MORTON.***Runner,***D A V I D B R O W N.****VACCINE PHYSICIANS.***First District*—Comprising the 1st and 26th Wards,

J. T. WILLIAMS, No. 1410 Ellsworth Street.

*Second District*—Comprising the 2d, 3d, and 4th Wards,

WILLIAM F. JENKS, No. 1338 Spruce Street.

*Third District*—Comprising the 5th, 7th, and 8th Wards, (First Division, west of Broad Street)

J. G. ALLEN, No. 1237 Spruce Street.

" " " (Second Division, east of Broad St.)

W. G. PORTER, No. 314 South Eleventh Street.

*Fourth District*—Comprising the 6th, 9th, and 10th Wards. (First Division, east of Broad St.)

II. LEAMAN, No. 231 North Eleventh Street.

" " " (Second Division, west of Broad St.)

W. ATLEE HOFFMAN, No. 115 North Eighteenth Street.

*Fifth District*—Comprising the 11th, 12th, 13th, 14th, and 15th Wards,

L. K. BALDWIN, No. 1828 Coates Street, First Division, 14th and 15th Wards.

E. G. BELKNAP, No. 633 North Tenth Street, Second Division, 11th, 12th, and

13th Wards.

*Sixth District*—Comprising the 16th, 17th, 20th, 28th, and 29th Wards,

S. N. TROTH, No. 1226 North Seventh Street, First Division, 16th, 17th, and 20th Wards.

WILLIAM B. CORBIT, No. 2061 Ridge Avenue, and 1303 North Broad Street, Second Division, 28th and 29th Wards.

*Seventh District*—Comprising the 18th and 19th Wards,

J. L. RIHL, No. 2009 Frankford Road.

*Eighth District*—Comprising the 23d and 25th Wards,

E. F. LEAKE, No. 4433 Frankford Avenue, Frankford, First Division, 23d Ward and Bridesburg.

JOHN C. HALL, No. 1502 Richmond Street, Second Division, Twenty-fifth Ward, except Bridesburg.

*Ninth District*—Comprising the 21st Ward,

WILLIAM C. TODD, 4407 Main Street, Manayunk.

*Tenth District*—Comprising the 24th and 27th Wards,

ELISHA CROWELL, No. 3937 Market Street, First Division, south of Haverford Street.

WILLIAM H. WALLACE, No. 3500 Haverford Street, Second Division, north of Haverford Street.

*Eleventh District*—Comprising the Twenty-second Ward,

A. C. LAMBDIN, No. 211 Price Street, Germantown.

*Vaccine Physician at Large*—S. Murphy, No. 1202 Filbert Street.

### CONTRACTORS FOR CLEANING STREETS, COLLECTING ASHES, &c.

*First District*—From the north line of Washington Avenue south, all the streets, lanes, alleys, &c., and from Delaware River to west line of Broad Street.  
 PETER MANTON, No. 708 South Sixth Street.

*Second District*—From north line of Washington Avenue to north line of South Street, and from Delaware River to west line of Sixth Street,  
 JAMES COLLINS, No. 1814 Kater Street

*Third District*—From north line of Washington Avenue to north line of South Street, and from west line of Sixth Street to west line of Broad Street,  
 SAMUEL B. COLLINS, No. 625 South Seventeenth Street.

*Fourth District*—From north line of South Street, south, and from west line of Broad Street to the Schuylkill River, all streets, lanes, alleys, &c.  
 JOHN McBRIDE, No. 709 South Twenty-eighth Street.

*Fifth District*—From north line of South Street to north line of Chestnut Street, and from Delaware River to west line of Sixth Street,  
 JAMES McBRIDE, No. 709 South Twentieth Street.

*Sixth District*—From north line of South Street to north line of Chestnut Street, and from west line of Sixth Street to west line of Broad Street,  
 JAMES CALLEN, 768 South Broad Street.

*Seventh District*—From north line of South Street to north line of Chestnut Street, and from the west line of Broad Street to the Schuylkill River,  
 HENRY BICKLEY, No. 1622 Market Street.

*Eighth District*—From north line of Chestnut Street to north line of Vine Street, and from Delaware River to west line of Sixth Street,  
 JOHN GALBRAITH, No. 426 North Delaware Avenue.

*Ninth District*—From north line of Chestnut Street to the north line of Vine Street, and from west line of Sixth Street to west line of Broad Street,  
 DANIEL McNICHOL, No. 123 Jacoby Street.

*Tenth District*—From north line of Chestnut Street to north line of Vine Street, and from west line of Broad street to the Schuylkill River,  
 HENRY BICKLEY, No. 1622 Market Street.

*Eleventh District*—From north line of Vine Street to north line of Poplar Street, and from Delaware River to west line of Sixth Street,  
 JOHN GALBRAITH, No. 426 North Delaware Avenue.

*Twelfth District*—From north line of Vine Street to north line of Poplar Street, and from west line of Sixth Street to west line of Broad Street,  
 HENRY E. BICKLEY, No. 1622 Market Street.

*Thirteenth District*—From north line of Vine Street to north line of Poplar Street, and from west line of Broad Street to Schuylkill River,  
 HENRY E. BICKLEY, No. 1622 Market Street.

*Fourteenth District*—From north line of Poplar Street to north line of Oxford Street, and from west line of Frankford Road along said Frankford Road to south line of Laurel Street, to Delaware River, and from Delaware River to west line of Sixth Street,  
 JAMES O'ROURKE, No. 1129 Somerset Street.

*Fifteenth District*—Beginning at Delaware River on south side of Laurel Street, along said street to west line of Frankford Road, along west line of Frankford Road to the north line of Oxford Street, and from north line of Oxford Street to north line of Norris Street, and from Delaware River to west line of Sixth Street,  
 JAMES O'ROURKE, No. 1129 Somerset Street.

*Sixteenth District*—From north line of Norris Street to north line of Alleghany Avenue, and from Delaware River to west line of Sixth Street, all streets, lanes, alleys, &c.  
 THOMAS D. STITES, No. 514 Richmond Street.

*Seventeenth District*—From North line of Poplar Street to north line of Alleghany Avenue, and from west line of Sixth Street to west line of Broad Street, all streets, lanes, alleys, &c.,  
 JOSEPH JOHNSON, No. 1312 Marlborough Street

*Eighteenth District*—That part of City of Philadelphia lying west of Schuylkill River,  
 DANIEL McLAUGHLIN, No. 3724 Lancaster Avenue.

*Nineteenth District*—From north line of Poplar Street to North line of Berks Street, and from west line of Broad Street to Schuylkill River, all streets, lanes, alleys, &c.,  
 EDWARD McCAFFREY, No. 1624 Swain Street.

*Twenty-first District*—That part of City lying north of Alleghany Avenue, known as Frankford and Bridesburg,  
 THOMAS D. STITES, No. 514 Richmond Street.

*Twenty-first District*—That part of the City known as Manayunk,  
 JAMES CLEGG, Manayunk.

REPORT  
OF THE  
BOARD OF HEALTH OF PHILADELPHIA,  
*For the Year 1871.*

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**Office of the Board of Health,**

PHILADELPHIA, April 2, 1872.

HON. WILLIAM S. STOKLEY,  
Mayor of the City of Philadelphia.

SIR:—In compliance with the provisions of the Act of Consolidation, the Board of Health respectfully submit the following

REPORT FOR THE YEAR 1871.

The general sanitary condition of the city for the first nine months of the year was of the most favorable character, the mortality from all causes being eighteen hundred and eighty-two (1,882) less than that of the corresponding period of the preceding year. Towards the latter part of the year small-pox, which had up to this time only occasionally appeared upon our records, began gradually to increase, and notwithstanding the most energetic measures used to confine its limits, it spread throughout the whole city, and continued to prevail the remain-

der of the year to an unparalleled extent. From this cause the excess of deaths over the previous year has amounted to two hundred and forty-three (243).

	1869.	1870.	1871.
Deaths from all causes, excepting			
small-pox, . . . .	14,780	16,750	15,114
Deaths from small-pox, . . . .	6	0	1,879
	—	—	—
Total deaths, . . . .	14,786	16,750	16,993
Marriages, 6,806, increase over previous year, 385, or 5.99 per ct.			
Births, 18,346, " " " " 1,152, or 6.70 "			
Deaths, 16,993, " " " " 243, or 1.45 "			
Excess of births over deaths in the year 1869, . . . .			2,174
" " " " 1870, . . . .			444
" " " " 1871, . . . .			1,353

In March, May, July, November, and December, the deaths were in excess of the births.

The ratio of deaths to the population for the year was 1 in 44, which compares favorably with that of preceding years. The highest rate of mortality occurred in the Fourth Ward, which embraces the so called "Alaska Street District," a district in which the social, physical, and hygienic condition of the people is, without exception, the very worst in the city. The lowest rate of mortality occurred in the Twenty-first Ward. In the Twenty-second and Twenty-third Wards the death rate was likewise low.

In the following wards the ratio of deaths to population was above the average (1 to 44).

Wards.	Deaths to pop.	Wards.	Deaths to pop.
21st, . . . .	1 to 70	9th, . . . .	1 to 50
22d, . . . .	1 to 65	10th, . . . .	1 to 50
23d, . . . .	1 to 65	15th, . . . .	1 to 50
13th, . . . .	1 to 57	14th, . . . .	1 to 48
27th, . . . .	1 to 54	24th, . . . .	1 to 47
8th, . . . .	1 to 53	6th, . . . .	1 to 45

Wards in which the ratio of deaths to population was below the average.

Wards.	Deaths to pop.	Wards.	Deaths to pop.
4th, .	. 1 to 29	7th, .	. 1 to 37
19th, .	. 1 to 33	11th, .	. 1 to 37
17th, .	. 1 to 34	18th, .	. 1 to 38
3d, .	. 1 to 36	16th, .	. 1 to 38
5th, .	. 1 to 37		

The principal causes of death for the year were as follows:

Consumption of the lungs,	.	.	2,237
Small-pox, .	.	.	1,879
Inflammation of the lungs,	.	.	848
Cholera infantum,	.	.	829
Convulsions,	.	.	639
Marasmus, .	.	.	557
Inflammation of the brain,	.	.	401
Typhoid fever,	.	.	313
Scarlet fever,	.	.	262
Croup,	.	.	264
Apoplexy, .	.	.	248

The record of the mortality of infancy and childhood presents the usual startling figures. Of the total number of deaths (16,993), seven thousand seven hundred and eighty-eight (7,788), or 45.83 per cent., were of children under ten years of age.

As compared with the year 1870, the figures are as follows:

1870.	1871.
Under 1 year, 4,629, or 27.63 per cent.	4,615, or 27.15 per cent.
" 5 years, 7,432, or 44.27 "	6,137, or 41.99 "
" 10 years, 8,076, or 48.11 "	7,788, or 45.83 "

It will be seen that the deaths of children under ten years of age were two hundred and eighty-eight (288) less in 1871 than in 1870. Cholera infantum was the cause of eight hundred and twenty-nine (829) deaths; convulsions, six hundred and eight (608); small-pox, eight hundred and thirty-five (835); in-

flammation of the lungs, four hundred and twenty (420); inflammation of the brain, three hundred and twenty-seven (327); and croup, two hundred and sixty-two (262).

The culminating point of the mortality of children under five years of age was reached in July, when there were nine hundred and ninety-one (991) deaths, three hundred and sixty-nine (369) of which were caused by cholera infantum. From July there was a steady diminution in the number of deaths until the latter part of September, when, on account of the epidemic of small-pox, the mortality again increased and continued to increase during the remaining months of the year. In the month of December there were seven hundred and fifty-nine (759) deaths, of which two hundred and ninety-eight (298) were from small-pox. Notwithstanding the great mortality from small-pox, the whole number of deaths of children under five years of age was twelve hundred and ninety-five (1,295) less in 1871 than in the preceding year.

Consumption of the lungs, as in preceding years, stands foremost among the causes of death, the average number of deaths per month for this year, from this disease alone, amounting to one hundred and eighty-six (186).

The number of deaths from this affection was seventy-one (71) less than in the preceding year, the whole number being two thousand two hundred and thirty-seven (2,237), or 13.16 per cent. of the total mortality from all causes. The deaths in each month of the year, arranged in numerical order, were as follows :

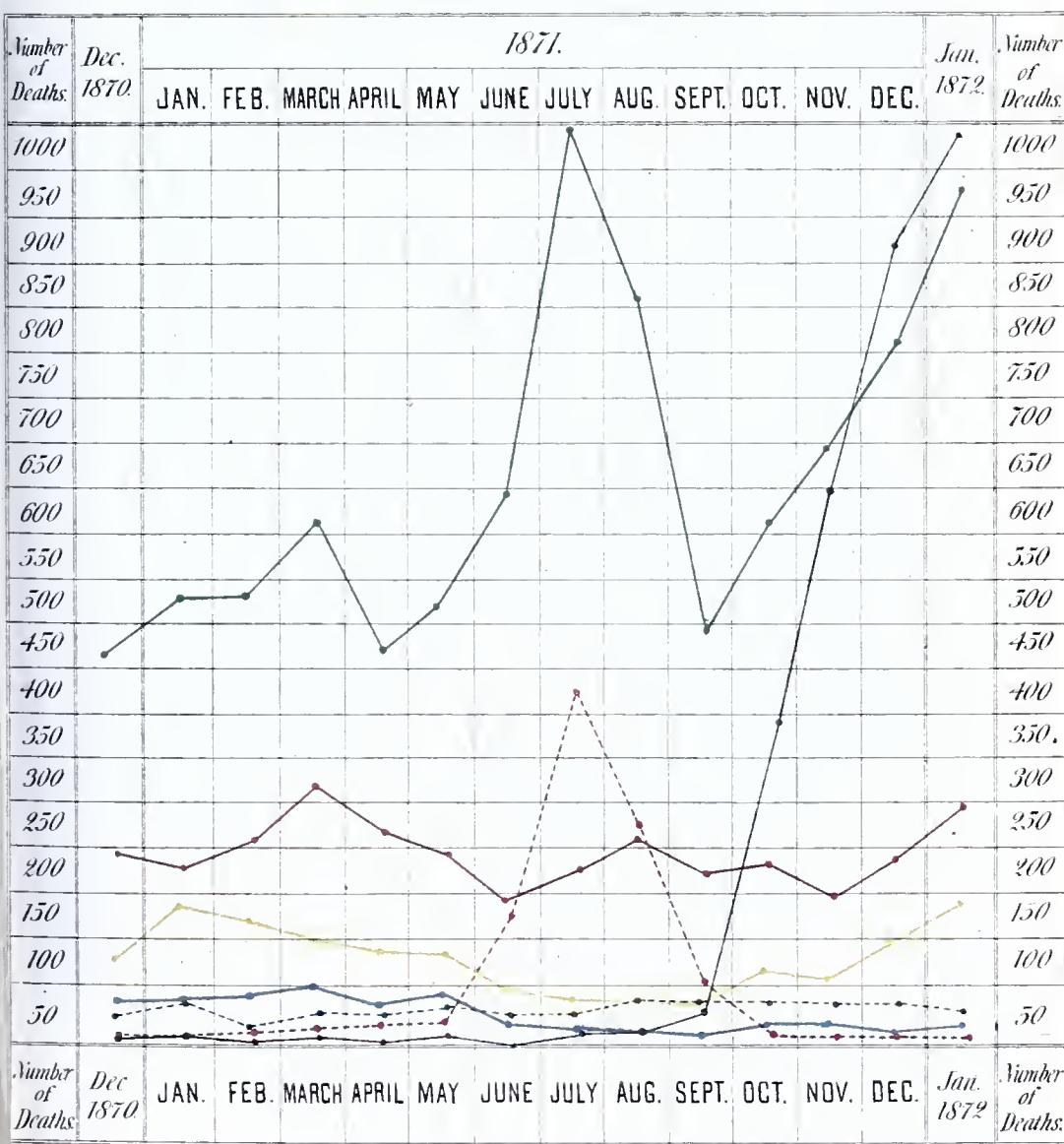
March,	.	.	.	259	October,	.	.	.	181
April,	.	.	.	207	January,	.	.	.	174
February,	.	.	.	205	September,	.	.	.	170
August,	.	.	.	204	July,	.	.	.	168
May,	.	.	.	188	November,	.	.	.	149
December,	.	.	.	185	June,	.	.	.	147

As in the two preceding years, the greatest mortality occurred in the month of March, but the lowest mortality occurred in June, and not in September, as in the years 1869 and 1870.

# CHART.

*Exhibiting the Course of Mortality of the  
Chief Fatal Diseases of Philadelphia for  
the Year ending December 31<sup>st</sup> 1871.*

- Small Pox.
- Consumption of the Lungs.
- Cholera Infantum.
- Scarlet Fever.
- Mortality under Five Years.
- Typhoid Fever.
- Inflammation of the Lungs.





Of the twenty-two hundred and thirty-seven (2,237) deaths from consumption of the lungs, seven hundred and twenty (720) occurred between the ages of twenty and thirty, five hundred and seventy-three (573) between thirty and forty, and three hundred and twenty-six (326) between forty and fifty. It will be seen that this disease is most fatal between the twentieth and thirtieth year of life, nearly one-third of all the deaths occurring in this period. The deaths were nearly equally divided between males and females. It is to be regretted that there is no record of occupation by which we might judge of its influence upon the disease.

Deaths from consumption of the lungs form ten per cent. of the whole mortality in France:

Paris, . . . .	13.4 p. ct.	Turin, . . . .	9. p. ct
Belgium, . . . .	16. "	Venice, . . . .	8. "
England, . . . .	12. "	Rome, . . . .	6. "
Frankford, . . . .	25.6 "	Naples, . . . .	8. "
Limburg, . . . .	21. "	New York (1866 to	
Hamburg, . . . .	21.7 "	1870), . . . .	13.7 "
Vienna, . . . .	20. "	Brooklyn (1868), .	14.84 "
Berlin (1839 to 1849)	17.5 "	S. Francisco(1871),	16.11 "
Geneva, . . . .	9.7 "	Philadelphia (1871)	13.16 "

The whole number of deaths from cholera infantum was eight hundred and twenty-nine (829), being one hundred and ninety-three (193) less than last year, and the smallest number registered since 1864. This malady was most fatal among infants under one year of age, six hundred and twenty-nine (629) deaths occurring at this period of life. Seven hundred and twenty-two (722) of the whole number of deaths from this cause were reported in the summer months. The maximum mortality was reached in July. In proportion to population the disease was most severe in the Nineteenth, First, Fourth, Eleventh, Twenty-sixth, Twenty-fifth, Seventeenth, and Seventh Wards of the city, and least severe in the Ninth, Tenth, Twenty-seventh, Twenty-eighth, Thirteenth, Twelfth, Twenty-third, Eighth, and Twenty-fourth Wards.

What are the causes to which we can attribute this difference of mortality in the various sections of the city? They are plainly not atmospheric heat and humidity alone, though these are powerful predisposing causes. The essential causes are such as arise from the social, physical, and hygienic condition of the people. An atmosphere poisoned by the decomposition of animal and vegetable matter, and rendered impure by overcrowding, uncleanliness, improper food, and improper care, are the agents that serve, under favorable conditions of the atmosphere, to destroy so much infant life. These influences are known to exist pre-eminently in those wards claiming the greatest mortality. Take the Fourth Ward for an example; it embraces the so-called Alaska Street District, a section of the city most densely populated, extremely filthy on account of domestic uncleanliness, and peopled by a class morally, socially, and physically, the most degraded. The other wards, in which cholera infantum was most fatal, are, in a social point of view, far above the Fourth Ward, but they embrace overcrowded districts inhabited by people who set at defiance every sanitary law.

The Ninth, Tenth, Twenty-seventh, Twenty-eighth, Thirteenth, Twelfth, Eighth, Twenty-third, and Twenty-fourth Wards, in which the mortality from cholera infantum was notably light, embrace some of the finest sections of the built up portion of the city, and rural and semi-rural districts.

There were seven (7) deaths from relapsing fever, which prevailed epidemically in 1870.

There were two hundred and sixty-two (262) deaths from scarlet fever, a decrease from last year of six hundred and ninety-four (694), a less number than has been reported for any year since 1861, with the exception of the year 1868.

It has not been confined to any particular locality. It prevailed more especially during the first half of the year. The greatest number of deaths was recorded in March, and the smallest number in September. During the last twelve years scarlet fever has been the cause of six thousand three hundred and eighty-three (6,383) deaths, while, during the same period, the

deaths from small-pox amounted to four thousand one hundred and forty-eight (4,148). The result of this comparison will doubtless surprise many, for scarlet fever has, unfortunately, become a familiar disease, and its destructive effects upon young life fail to attract proper attention or occasion public alarm. It seems to have been considered an inevitable disease of childhood, and the proper measures to prevent its spread are scarcely understood, and seldom, or never, efficiently applied. It cannot be doubted that by the general adoption of proper sanitary measures this disease would cease to be the terrible scourge that it now is. Isolation at home or in hospital, disinfection efficiently carried out, and scrupulous cleanliness, are measures that should be made obligatory upon the community.

Typhoid fever prevailed uniformly throughout the year, there being but slight variation in the reports of deaths for the different months. The deaths amounted to three hundred and thirteen (313), a decrease of ninety-six (96) from the preceding year. Of these two hundred and nine (209) were adults, and one hundred and four (104) children.

This disease was most fatal during the period of life between twenty and thirty years, nearly one third of all the deaths occurring within these limits.

There was also a decrease in the number of deaths from typhus fever, there being but thirty-seven (37) reported, thirty-two (32) less than for the previous year.

Eight hundred and forty-eight (848) deaths were due to inflammation of the lungs, a slight excess over the year 1870. According to the records, it is preeminently fatal in childhood, more than one-half of the deaths occurring among children under ten years of age. The mortality is next heaviest in old age. January, February, March, and December, were the most fatal months.

The total number of deaths from inflammation of the lungs, from 1860 to 1871, inclusive, was eighty-nine hundred (8,900), which gives a yearly average of seven hundred and forty-two (742). It will be seen that this is one of the most fatal diseases

upon the mortuary register. It stands third upon the list of chief fatal diseases for 1871.

The past year has been a notable year in the history of small-pox, in the United States as well as in Europe, where it has prevailed to an extent unequaled for years. It has been an epidemie of uncommon malignaney. In Holland, where the laws regulating vaccination are defective as compared with those of many other European countries, it has committed the most frightful ravages. Great Britain, Germany, and France have suffered severely, but to a less extent. In this country the disease has exhibited the same remarkable severity—spreading with rapidity and possessing an unusual malignaney. From the fact that those sections of the country in most direct communication with Europe, have been the first visited by small-pox, it is not at all improbable that they have been infected through the ordinary channels of commerce. During the latter part of the year, Philadelphia was visited by an epidemie of small-pox of a very severe character, the number of cases exceeding that of any previous year, and the mortality being proportionally heavy. From general information and from the few reports of statistics for the past year that have thus far been received, it is apparent that this city is no exception among the many cities of the Union in which small-pox has prevailed, the general experience characterizing the epidemie as one of unusual severity. It is, therefore, justifiable to maintain that there are no local causes peculiar to Philadelphia to which the severity of the epidemie from which we have suffered may be attributed.

In October the disease assumed an epidemie form in our city, and prevailed actively the remainder of the year. Previous to October the mortality amounted to 47; from October 1st to December 31st, there were registered 1,832 deaths, making a total for the year of 1,879 deaths. It will be seen (Table XII., Appendix) that in no month of the year was the city exempt from small-pox. The number of cases reported in each month were as follows:

January,	.	.	13	July,	.	.	15
February,	.	.	6	August,	.	.	58
March,	.	.	4	September,	.	.	111
April,	.	.	8	October,	.	.	1,628
May,	.	.	9	November,	.	.	2,944
June,	.	.	11	December,	.	.	3,307
<hr/>							
Total number of cases,						.	8,114

The cases were distributed throughout the city as follows:

Wards.	Cases.	Wards.	Cases.		
1st	.	246	16th	.	308
2d	.	323	17th	.	306
3d	.	313	18th	.	410
4th	.	470	19th	.	537
5th	.	248	20th	.	1,153
6th	.	161	21th	.	16
7th	.	370	22d	.	48
8th	.	144	23d	.	117
9th	.	148	24th	.	131
10th	.	414	25th	.	148
11th	.	287	26th	.	268
12th	.	216	27th	.	55
13th	.	263	28th	.	149
14th	.	295	29th	.	183
15th	.	387			

The ratio of the whole number of deaths to the whole number of cases was 1 in 4.3. It will be observed (Table XV., Appendix) that the disease was most virulent in the month of December, the ratio of deaths to the cases being—

September,	-	-	-	-	-	1 in 9.7
October,	-	-	-	-	-	1 in 6.7
November,	-	-	-	-	-	1 in 5.09
December,	-	-	-	-	-	1 in 3.6

On the 7th of August seven cases were reported, the greatest number in any one day from the 1st of January. From the 20th

to the 25th of the month inclusive, not a single case was registered. Of the 58 cases reported for the month of August, 21 were in the Eighth Ward, where the increase of small-pox was first noted.

During September there was a very gradual increase of the disease. For the first fifteen days there was an average of 2.3 cases per day; for the last fifteen days, an average 3.58 cases per day. On the 3d, 13th, and 24th of the month, not a case was reported; on the 25th there were 12 cases, the largest number reported on any one day. In this month (September) the disease was most active in the Twentieth Ward, one-fifth of the cases occurring there. In the Eighth Ward there were only two cases.

It was not until the first part of October that small-pox began suddenly and rapidly to increase. We have 1 case reported on the 30th of September, and on the 6th of October 75 cases.

The disease steadily increased from this period to the latter part of November, when it reached its culminating point, and then very gradually declined. On the 20th, 21st, 22d, and 23d of November, there were registered respectively 155, 154, 158, and 156 cases. For the week ending November 25th, there were 914 cases, 108 in excess of any other week, and 110 in excess of the last week of December. Though the culminating point of the epidemic was reached in November, the aggregate number of cases for December exceeded that of November by 363.

In October, as in September, the disease prevailed pre-eminently in the Twentieth Ward, nearly one-third of the cases reported for the whole city coming from this section. Likewise in November this ward took the lead in the number of cases, though small-pox had already begun to decline there. In October the Twenty-first Ward, which had not reported a single case since July, returned 6 cases; the Twenty-second Ward, which had reported only 3 cases for the whole year, returned 14, and the Twenty-third Ward also 14 cases.

In November and December not a single ward in the city was exempt from the disease, though in the Twenty-first, Twenty-

second, and Twenty-seventh Wards, it existed only to a moderate extent.

In December there was a marked diminution in the Twentieth, Fourth, and Tenth Wards, and quite as marked an increase in the Nineteenth, Fifteenth, Second, Eleventh, and Seventeenth Wards.

The following figures are useful in making a comparison of the number of cases in the wards where the disease was most prevalent in October, November, and December:

October.		November.		December.	
Wards.	Cases.	Wards.	Cases.	Wards.	Cases.
20th,	. 551	20th,	. 371	19th,	. 277
10th,	. 114	4th,	. 208	15th,	. 217
18th,	. 82	19th,	. 197	20th,	. 207
7th,	. 74	10th,	. 176	4th,	. 189
4th,	. 64	18th,	. 160	18th,	. 166
19th,	. 52	7th,	. 132	2d,	. 163
		15th,	. 131	11th,	. 161
				17th,	. 154

It will be observed (Table XIV., Appendix) that the disease was most fatal in the Sixteenth, Third, Twenty-eighth, Twenty-third, Fourth, and Nineteenth Wards, where the percentage of deaths was greater than the general average. In the Twenty-seventh, Sixth, Twenty-first, Ninth, Tenth, Twentieth, Twenty-sixth, Fifteenth, and Seventh Wards, it was least fatal in the order in which enumerated.

Wards.	Ratio of Deaths to Cases.	Wards.	Ratio of Deaths to Cases.
16th, 1 in 2.9 or 34.4 p. c.		27th, 1 in 9.6 or 10.4 p. c.	
3d, 1 in 3. or 33.3 "		6th, 1 in 8.9 or 11.2 "	
28th, 1 in 3.1 or 32.2 "		21st, 1 in 8. or 12.5 "	
23d, 1 in 3.7 or 27. " "		9th, 1 in 7.4 or 13.5 "	
4th, 1 in 4. or 25. " "		10th, 1 in 6.7 or 14.5 "	
19th, 1 in 4.2 or 23.8 "		20th, 1 in 6.4 or 15.6 "	
2d, 1 in 4.5 or 22.2 "		26th, 1 in 6.3 or 15.8 "	
27th, 1 in 4.5 or 22.2 "		15th, 1 in 6.3 or 15.8 "	
17th, 1 in 4.6 or 21.7 "		7th, 1 in 6. or 16.6 "	
18th, 1 in 4.6 or 21.7 "			

Table XVI. of the Appendix furnishes a highly interesting statement of the number of deaths from small-pox in the City of Philadelphia since the year 1807, and the ratio to the thousand inhabitants. It shows that no epidemic has been so fatal as the present one. In 1871 there were 1,879 deaths, or 2.78 to every thousand of the population. The most severe epidemic up to last year occurred in 1824, when there were recorded 325 deaths, or 2.37 in every thousand of the population.

The years of the severest epidemics of small-pox are as follows :

Year.	Deaths.	Ratio to 1,000 of pop.
1871 . . . .	1879 . . . .	2.78
1824 . . . .	325 . . . .	2.37
1861 . . . .	758 . . . .	1.34
1808 . . . .	145 . . . .	1.28
1823 . . . .	160 . . . .	1.16
1852 . . . .	427 . . . .	1.04
1811 . . . .	117 . . . .	1.04
1834 . . . .	195 . . . .	1.03
1841 . . . .	259 . . . .	1.00

It will be observed that since 1807 there have been only seven years in which no death from small-pox has been recorded. From 1866 to the present year the mortality from this cause has amounted in the aggregate to only 64 deaths, an average of about 13 a year.

Reference may be made to the interesting and valuable report of the Health Officer, in the Appendix, for a more full and minute record of the vital statistics of the city for the past year.

The majority of cases have been reported as varioloid, but it is impossible to make any reliable distinction in the general report, and, therefore, all cases have been classed under the head of small-pox. The rate of mortality has been 23.15 per cent. This is a high death rate, and indicates the malignant type of the disease prevailing this year. Many of the cases have been characterized as hemorrhagic small-pox, a form of the disease in

which there is associated a depraved condition of the blood, and which is usually fatal. Death in the first week has not been uncommon.

Of the 1,879 deaths, 835, or 44.44 per cent., have been of children under ten years of age. In a future report it will be determined what proportion of these cases possessed good vaccination marks.

It is worthy of note that during the latter part of the year 1871 small-pox assumed an epidemic form in many parts of this country. For a year or two past some of the largest cities of Europe have been scourged by its presence. In the early part of the fall it was more exclusively confined to the Eastern and Middle States, but by the close of the year the West and far South were likewise suffering from its visitation. Even in California, where it was epidemic in 1869, cases were reported at different points the latter part of December. A report has been circulated that the disease nowhere prevailed to the same extent and with the fatality as in Philadelphia. This is a mistake. In this city it has exhibited the same features that have characterized the general epidemic of 1871. In point of fact, it has been less severe than in many other cities and towns. A sufficient number of reports for the past year have not yet been received to make a useful comparative statement.

The law requiring physicians to report, in writing, to the Health Officer all cases of pestilential or contagious diseases whenever coming under their charge, it is believed, has been for the most part faithfully complied with. For the purpose of facilitating the prompt compliance with the law and of securing uniform and full reports of cases, blank forms have been furnished to physicians throughout the city. Special blank forms have been furnished for the reports of cases of small-pox, containing in addition to the usual interrogations, questions in regard to vaccination, previous variolous disease, sanitary condition of dwellings, &c. These blanks have very generally been carefully filled out, and have been of great service to the Port

Physician in directing sanitary inspection, and will form valuable material in preparing the history of the present epidemic.

There is no speelial law empowering the Board of Health to compel persons suffering from contagious diseases to go to the Municipal Hospital, but in the great discretionary power entrusted to the Board, there is undoubtedly embraeered the right to use eoereive means in eases of extraordinary peril to the lives of individuals themselves, and to the health of the community. In some instances the Board has felt justified in using empulsion in seuring the removal of persons to the hospital, and have thus doubtless saved the lives of many such persons, and proteeted multitudes from infection and death. In most eases where it has been deemed neeessary to send variolous patients to the hospital, the orders of the Board have been most willingly aequiesced in. Applications for admission to the hospital have almost daily been made by persons, mostly very poor, who were suffering from small-pox, and who had come to the office before having consulted a physician or informed the authorities of their condition. While the hospital has, for the most part, been the asylum of the poor, many persons in the best of circumstanees have availed themselves of its liberal provisions.

During the year 1,227 eases of small-pox have been treated in the Munieipal Hospital, and it is no ordinary compliment to this institution when we say that not a single well-founded complaint has been made to the Board against its management. The interesting and valuable report of Dr. Wm. M. Weleh, the physieian in charge of the hospital, furnishes the details of the workings of the institution for the year 1871.

The hospital has a capacity for 200 beds, which number may be increased, if an emerгенey arise, by fitting up the large baleonies with sashes. Until the present year, the building has been ample, without the use of the baleonies, for the aeeommodation of all the patients. The greatest number of patients treated in any one year was 640. During 1871, and principally during the last quarter of the year, there were treated 1,227 patients of small-pox alone. In the early part of November it

was obvious that at the rate at which patients were being received, additional accommodations would be required. It was determined to erect tents for this purpose. Accordingly, a number of large, double, army hospital tents were erected, provided with floors, stoves, and all needful conveniences. These were used for convalescents, and proved a success, being well ventilated and comfortable even in the severest weather. Several of the balconies were fitted up with sashes and converted into large comfortable wards. These additions were found sufficient for the accommodation of patients without crowding, securing to each one twelve hundred cubic feet of air. The greatest number accommodated at any one time was 312. Corresponding changes had to be made in the other departments of the hospital to meet the demands of the increased population. How thoroughly prepared the hospital was for meeting all demands thus arising, will be seen from the accompanying report of Dr. Welch. There are two points, however, to which the Board regret they are obliged again to call the attention of Councils, which are of the highest importance, and which have been a source of embarrassment in conducting so large a hospital in a period such as we have just passed through, and to these Dr. Welch directs the attention of the Board. They are a deficient water supply and absence of a proper and safe means of lighting the building. The hospital has been obliged to depend upon wells for its supply of water, and a serious inconvenience, if not embarrassment, has necessarily resulted therefrom. On account of the absence of city gas, resort was had to gas supplied from a gasometer on the premises. This arrangement has proved not only insufficient but dangerous, and has been totally abandoned. The distance of the hospital from the built-up portion of the city has been an obstacle in the way of conducting both gas and water to the premises, but it is not insurmountable.

Councils are, therefore, respectfully urged to take immediate steps to furnish the institution with both gas and a liberal supply of pure water.

There have been treated in the hospital during the year 1,249

patients, of which 1,227 had small-pox. The mortality of small-pox (variola and varioloid) has been 29.42 per cent. This heavy mortality may be accounted for by the malignant character of the epidemic, and by the fact that a very large proportion of the cases sent to the hospital were of a very severe character or possessed constitutions already debilitated by debauch, exposure, or chronic disease.

Two additional physicians were appointed to assist the physician in charge.

Three ambulances have been employed in conveying the sick to the hospital, and have proved entirely adequate for the prompt removal of all patients in every instance. Additional wagons have been employed for the special purpose of removing infected articles from dwellings, to be destroyed or disinfected. During the height of the epidemic scarcely a day elapsed without one or more persons suffering from small-pox appearing at the office, seeking admission to the hospital. A special ambulance was always in readiness to convey such persons immediately to the hospital. The Board repeatedly cautioned the public against exposing themselves upon the public thoroughfares of the city while suffering from small-pox, and provided for sending a medical officer to visit at their homes such persons as had no physician and desired admission to the hospital. There is need of a law, with a penalty attached, prohibiting any person from wilfully exposing himself or others in public without proper precautions, when suffering from dangerous infectious disease. The Sanitary Act adopted by England in 1866 embraces the following important sections:

No person shall enter a public conveyance while suffering from infectious disease, without first informing the owner or driver of the fact. The owner or driver of a public conveyance shall at once provide for disinfection of his conveyance, after it has, to his knowledge, conveyed an infected person.

No person shall, without previously disinfecting them, give, lend, sell, expose, or transmit (except for disinfection), any clothes, bedding, etc., which have been exposed to infection.

No person, knowingly, shall let any house or room in which a

person suffering from infectious disease has been, without having thoroughly disinfected it to the satisfaction of a qualified medical practitioner, as testified by a certificate signed by him.

The necessity of amending the Health Act so as to embrace the above provisions is beyond question.

The Municipal Hospital is connected with the Health Office by telegraph. It is an indispensable convenience. So constant has been its use as to require the continuous services of an operator. In addition to its use for the usual business of the office, it has been brought into constant requisition as a means of communication by relatives and friends of patients in the hospital. Not a day elapsed during the present epidemic without a score or more of persons calling at the office to enquire about their friends: this practice has been encouraged, and thus has been avoided the alternative of their visiting the hospital to obtain such information, and the great danger of infection, for, notwithstanding access being disallowed, there might be a possibility of infection.

The Board have labored quietly, but earnestly and energetically, avoiding the production of a panic, but encouraging a rational alarm among citizens in regard to the danger threatening them, and recommending the needful measures of protection, and they have reason to believe that the mass of the people have adopted such measures as prudence and reason would dictate, and have availed themselves of the protective power of vaccination and revaccination; but it is to be regretted that a large portion of the people, through ignorance, prejudice, or culpable neglect, have not been vaccinated, notwithstanding the daily warning and appeals as to their duty made through the public press, by means of circulars, and personally by the vaccine physicians and officers in the service of the Board. Such are the persons that furnish the material which has doubtless served to prolong the epidemic in our midst. At this day patients are constantly being admitted to the hospital who have never been vaccinated or revaccinated. Nothing but compulsion by law can protect the community from this dangerous class of people always existing in their midst.

## PUBLIC VACCINATION.

By a liberal provision of Councils gratuitous vaccination has been placed within the reach of every individual in the city of Philadelphia. Until this year but comparatively few persons have availed themselves of this liberal gift. The accompanying table furnishes only such cases as have been certified to as successful upon the personal inspection of the vaccine physicians. It is estimated that at least 20,000 additional operations have been performed, making the whole number over 50,000. The Board directed revaccination to be performed during the prevalence of small-pox, and as a certain proportion of these secondary operations is always unsuccessful, and, moreover, as in numerous instances the vaccine physicians were unable to determine the result of the operations from their inability to make personal observation, many successful cases on this account escaping notice, there is, therefore, a sufficient explanation for the supposed failure of so large a number of operations.

The following table exhibits the number of vaccinations performed during each year since 1860;

1860,	-	-	-	5,313	1866,	-	-	-	3,556
1861,	-	-	-	9,251	1867,	-	-	-	6,189
1862,	-	-	-	4,026	1868,	-	-	-	5,207
1863,	-	-	-	4,028	1869,	-	-	-	6,650
1864,	-	-	-	4,809	1870,	-	-	-	7,190
1865,	-	-	-	5,652	1871,	-	-	-	50,526

*Report of the number of cases vaccinated during 1871.*

DISTRICTS.	PHYSICIANS.	1st Qr.	2d Qr.	3d Qr.	4th Qr.	Total.
First.....	J. T. Williams.....	82	233	87	1,941	2,343
Second.....	Joseph Heritage.....	165	861	.....	.....	1,026
" .....	Wm. F. Jeuks.....	.....	.....	.....	784	784
Third.....	J. G. Allen.....	44	180	548	1,793	2,565
" .....	Wm. G. Porter.....	.....	.....	.....	466	466
Fourth.....	H. Leaman.....	54	494	.....	922	1,470
" .....	W. Atlee Hoffman.....	.....	.....	.....	808	808
Fifth.....	L. K. Baldwin.....	230	780	254	2,885	4,149
Sixth.....	S. N. Troth.....	297	634	266	2,456	3,653
Seventh.....	J. L. Rihl.....	.....	206	.....	1,806	2,012
Eighth.....	F. F. Cassiday.....	146	510	.....	.....	656
" .....	E. F. Leake.....	.....	.....	.....	2,000	2,000
Ninth.....	Wm. C. Todd.....	103	103	150	2,100	2,453
Tenth.....	Elisha Crowell.....	286	391	355	3,002	4,034
" .....	Wm. H. Wallace.....	.....	.....	.....	17	17
Eleventh.....	A. C. Lambdin.....	27	112	.....	939	1,078
At large.....	S. Murphy.....	.....	.....	.....	618	618
" .....	J. Roberts.....	.....	.....	.....	192	192
" .....	W. S. Hendrie.....	.....	.....	.....	202	202
		1,434	4,501	1,660	22,931	30,526

In accordance with an ordinance of Councils, approved January 27, 1865, by which the Board were "authorized to make such rules and regulations as in their judgment were proper and expedient for the purposes of vaccination," several of the larger vaccine districts were sub-divided and additional physicians appointed. From the above table it will be seen how faithful and efficient have been the services of the public vaccinators. This large number of 50,000 persons has doubtless been protected from infection—so widespread in our city.

From the very commencement of the epidemic the public have been constantly urged to resort to vaccination and re-vaccination

as "the most effectual means of preventing infection from small-pox, and of crushing out the disease. There are no data by which an estimate may be made of the number of persons vaccinated and re-vaccinated during the last four months of the year, exclusive of those reported by the vaccine physicians, but it may be safely said that a great majority of the citizens have submitted to the operation.

We regret, however, that there exists a by no means inconsiderable number of persons, who have stubbornly refused to avail themselves of the benefits of vaccination, notwithstanding the risk to which their lives have been exposed. Such are the persons who, through their especial susceptibility to the contagion of small-pox, serve to keep alive the disease in our midst, inflicting severe injury upon themselves and, indirectly, upon the community. The demand for the enactment of a law whereby vaccination shall be made compulsory, is more urgent than ever, and it is to be hoped that the Legislature of our Commonwealth will, before the expiration of the present session, confer this boon upon the people.

In the early part of October the Board adopted the following preamble and resolutions :

WHEREAS, Complaint has been made to the Board of Health that certain public schools have been closed because of alleged existence of small-pox in their proximity, which, in the judgment of this Board, is entirely unwarranted, provided that all the pupils have been thoroughly vaccinated ; and

WHEREAS, The fact has come to the knowledge of the Board of Health, that notwithstanding the provision of gratuitous vaccination, there are, nevertheless, very many children attending the public schools unprotected by vaccination, which is in direct violation of the following rule of the Board of Education :

#### RULE XL.

"No child shall be admitted or continued as a pupil in any school in the First School District who has not been vaccinated; and it shall be the duty of the principals to report, quarterly, to

. the Sectional Boards, the number of non-vaccinated children applying for admission as pupils to their schools, and the names of the pupils, if any, who have not been vaccinated; and these reports, or copies of the same, shall be transmitted to the Board of Public Education by the Sectional Boards, and in any instance where a principal shall fail to comply with this resolution, the salary of the said principal shall be withheld until the resolution shall be complied with;" and

WHEREAS, Principals of public schools are not qualified to determine the vaccine condition of their pupils; therefore

*Resolved*, That the vaccine physicians are hereby ordered to visit every public school within their respective districts, and examine all pupils for the purpose of ascertaining whether they have been vaccinated, and if so, what is the character of the vaccine marks; and if any pupils be found not vaccinated, or who present vaccine marks of a doubtful character, or who show no evidence of having had small-pox, their names shall, by the vaccine physician, be reported to the principal of the school, whose duty it is to suspend all such pupils until they present a certificate either from a vaccine physician or a respectable physician residing in the city, to the effect that they have been successfully vaccinated, or subjected to the test of re-vaccination, as the case may be.

*Resolved*, That we earnestly solicit the co-operation of the Board of Education and the Sectional Boards of Directors of Public Schools in carrying out this order.

The Board of Public Education with commendable promptness supported the above action by the adoption of the following resolutions, and the result was the thorough inspection of the public schools, and the vaccination of such pupils as had never been vaccinated, or who possessed insufficient vaccine marks.

*Resolved*, That the immediate attention of the principals of the public schools of this city be directed to Rule XL. of the Board of Education, concerning vaccination, &c., and that the enforcement of the same be promptly and rigidly exacted.

*Resolved*, That the said principal teachers be directed to give

every information, and to afford every facility to the vaccine physicians of the Board of Health now visiting the public schools for the purpose of examination, and, if necessary, vaccination of the public school children.

*Resolved*, That the closing of any of the public schools is only calculated to create unnecessary panic and alarm, and no school of this district shall, in future, be closed from fear of contagious disease, excepting by direction of the Board of Health of the city.

The following circular was issued to the vaccine physicians for their guidance:—

**EXTRACTS FROM AN ORDINANCE TO PROVIDE FOR GRATUITOUS  
VACCINATION.**

It shall be the duty of each of the vaccine physicians to vaccinate gratuitously in their respective wards, all persons who may make application, or be reported to him by the collector of vaccine cases in his ward, either at his own office, or at their respective places of abode, according to the option of the applicant; and he shall continue to visit every such patient, as often as may be necessary, to enable him to ascertain whether the person or persons so vaccinated have passed through the genuine disease. Each of the said vaccine physicians shall keep, in some convenient part of his ward, an office, with a sign in front, having on the words "Vaccine Physician, ——Ward" (the blank to be filled with the number of the respective ward), where application may be made at all reasonable hours, in relation to the duties of his appointment; and each of said physicians shall preserve and keep on hand a sufficient quantity of genuine vaccine matter, for distribution, without fee or charge, to all practising physicians residing within the City of Philadelphia, who may make personal application therefor.

The said physicians shall each furnish the said Board of Health, quarterly, with a list, alphabetically arranged, of the names, ages, birthplaces, residences, and occupations (and, when children, of the occupation of their parents) of the persons whom he may have successfully vaccinated.

It shall be the duty of the collectors\* to call on each and every family residing within the ward or wards for which he may be elected, and inquire whether any, and if any, what members thereof may be liable to small-pox disease, and if he find any person or persons so liable, he shall offer the gratuitous services of the vaccine physician of the ward to vaccinate such person or persons, and if the offer shall be accepted the said collector shall report immediately to the said physician the names of the individuals, with their residences; and at the expiration of each quarter he shall leave a copy of all the cases, with their residences, collected by him and returned to the physician, at the health office, with the health officer.

#### INSTRUCTIONS TO VACCINE PHYSICIANS.

In order to secure a more general vaccination of the population of this city, it is required that the vaccine physicians make a systematic house-to-house visitation in their respective districts, either personally or through competent "collectors," according to "An Ordinance to provide for gratuitous vaccination."

With the object of furnishing data for securing such legislation as may be necessary to protect life by thorough and universal vaccination, it is requested that the vaccine physicians report quarterly to this Board the names and residences of all persons who refuse to have themselves vaccinated, or allow the operation to be performed upon the members of their families over which they have legal control, with the names of such members of families.

The following instructions, based upon a document lately issued to public vaccinators by the Privy Council of Great Britain, have been adopted for the guidance of vaccine physicians :

Except so far as any immediate danger of small-pox may require, vaccinate only subjects who are good health.

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\*Vaccine physicians may dispense with collectors, provided that they themselves call on each and every family residing within the ward or wards for which they may be elected, with the object of vaccinating all persons who may be liable to small-pox.

As regards infants, ascertain that there is not any febrile state, nor any irritation of the bowels, nor any unhealthy state of the skin; especially no chafing or eczema behind the ears, or in the groin, or elsewhere in folds of skin.

Do not, except of necessity, vaccinate in cases where there has been recent exposure to the infection of measles or scarlatina, nor where erysipelas is prevailing in or about the place of residence.

In all ordinary cases of primary vaccination, if you vaccinate by separate punctures, make such punctures as will produce at least four separate good-sized vesicles, not less than half an inch from one another; or, if you vaccinate otherwise than by separate punctures, take care to produce local effects equal to those just mentioned.

Direct care to be taken for keeping the vesicles uninjured during their progress, and for avoiding afterwards the premature removal of the crusts.

In cases of primary vaccination, register as "successful" only those cases in which the normal vaccine vesicle has been produced; in cases of revaccination, register as "successful" only those cases in which either vesicles, normal or modified, or papulae surrounded by areolæ, have resulted.

Consider yourself strictly responsible for the quality of whatever virus you use or furnish for vaccination. Be careful to keep separate, vaccine virus obtained from different subjects, and to affix to each crust the name or number in your record of the subject from whom it has been derived.

Keep such note of all virus which you use or furnish as will always enable you, in any case of complaint, to identify the origin of the virus. Never use crusts from cases of revaccination. Take crusts only from subjects who are in good health, and, as far as you can ascertain, of healthy parentage, preferring children whose families are known to you, and who have elder brothers or sisters of undoubted healthiness. Always carefully examine the subject as to any skin disease, and especially as to any signs of hereditary syphilis.

Scrupulously observe, in your inspections, every sign which tests the efficiency and purity of your virus. Note any case wherein the vaccine vesicle is unduly hastened or otherwise irregular in its development, or wherein any undue local irritation arises, and if similar results ensue in other cases vaccinated with the same virus, desist at once from employing it. Consider that your virus ought to be changed if your cases, at the usual time of inspection, on the day week after vaccination, have not, as a rule, their vesicles entirely free from areolæ.

Keep in good condition the lancets or other instruments which you use for vaccinating, and do not use them for other surgical operations. When you vaccinate have water and a napkin at your side, with which invariably to cleanse your instrument after one operation before proceeding to another.

*Extracts from reports of vaccine physicians.*

Dr. Leaman, vaccine physician of the Fourth District, reports that one-half of the revaccinations have taken well, forming a vesicle and areola from the sixth to the ninth day, and with almost uniform constitutional disturbance. In the majority of cases the vesicle matured on the sixth day,—a considerable number not until the ninth day. I was surprised to find not unfrequently, and especially in adults, the revaccination run the exact course of a first vaccination. There has been no tendency to erysipelas; but one case, to my knowledge, of a severe character has occurred in the three thousand arms I have scarified during the past year. In several cases that have come under my notice troublesome ulcers have occurred, and they have doubtless happened in others. These I attribute to bad constitutions and irritation of the sleeve. \* \* \* \* Where the virus is carefully selected and properly used, the risk from the operation amounts to nothing.

The following extract is taken from the report of Dr. Baldwin, vaccine physician of the Fifth District:

Since October 1, 1871, I have vaccinated over six thousand persons. A number of cases of varioloid occurred in those vaccinated by me, but always, without a single exception, while the

vaccine pustule was still on the arm ; none of them had a fatal termination. The disease in such cases was no doubt in the system at the time of vaccination, and would doubtless have proved fatal had it not been for the modifying influence of the vaccination. The number of successful cases was of course greatest in children who had never been vaccinated. The proportion of failures in such cases, after the child had reached or passed the age of three months, was not more than one in twenty. Under three months the failures were more frequent, especially when the subject was only a few days or weeks old. I had quite as large a proportion of failures in children under two weeks old, as I had in adults who had previously been vaccinated. My next best success was in very old persons above sixty years. In such cases the failures were quite few, and the pustules usually appeared to approach more nearly the character of primary cases than in youths, or in adults below the age mentioned. Very little difference was noticed, either in the number of successful cases or in the character of the pustule, in subjects ranging from fifteen to sixty years. The most failures occurred in children from five to seven years, who had previously been vaccinated. Those ranging from seven to fifteen years, as a rule, produced good pustules, with a small proportion of failures. The virus from which I obtained the largest proportion of successful results was that of one or two removes from the cow. The pustules formed from the use of such virus were in some respects different from those formed when ordinary virus was used. They were usually larger, of a lighter color, and attended by a higher degree of inflammation. The cicatrices left were also deeper in such cases, especially in primary vaccinations. One thing has attracted my attention, and that is the remarkably small and shallow scars left in secondary cases, even when the pustules were large and attended with a high degree of inflammation.

I have very seldom seen a secondary cicatrix having the characteristic punctated depression usually seen in primary cases. Notwithstanding the absence of many of the phases through which the primary vesicle passes, I am fully convinced, from

what I have seen since the commencement of the epidemic, that they are equally as protective as the perfect primary pustule. My faith in vaccination has been so strengthened by my observations during the last five months, that I feel safe in saying that we most undoubtedly have it in our power to vaccinate the scourge entirely out of existence.

Dr. Williams, vaccine physician in the First District, reports that he has vaccinated in households where there was small-pox, and the persons vaccinated remained free from the disease. Revaccinations are often irregular in their course, and are attended with more inflammation than primary cases, and have a more diffused areola. Has not seen a case in which any other disease has been communicated.

Drs. Todd and Williams report vaccination as being very generally successful in adults who had had small-pox in early life.

Dr. Crowell is unable to cite a case of small-pox occurring after successful vaccination or revaccination performed during the year. He notices a case of a woman being successfully revaccinated, while her husband refused to have the operation performed. Sometime afterward he was attacked with small-pox and died; his wife, who was constantly present with him, escaped the disease.

Dr. Rihl reports a family of seven persons as having all been successfully revaccinated, except the father, who had been vaccinated in infancy. The latter took the small-pox and died. The rest of the family, though constantly exposed to the infection, all escaped.

Dr. Todd reports whole families who have never been vaccinated, and only consented to have the operation performed on account of small-pox being in their immediate vicinity.

#### WATER SUPPLY.

An abundant supply of pure water is absolutely indispensable for the maintenance of public health. As custodians of the health of the city, the Board are deeply interested in all measures

tending to secure an adequate supply of water and improve its quality. It cannot be denied that, at seasons of the year when a free use of water is most essential to the well-being of the community, there has been a scarcity, which has seriously interfered with the comfort, if not the health, of citizens, and formed a just ground for complaint. This evil has, we understand, been remedied for the limited future; but, with the increase of consumption necessarily consequent upon the increase of population, the question arises as to whether the present source of the supply will be adequate to the increasing demand.

We have hailed with delight the wise action of the authorities that has secured to the city the possession of large tracts of land on both banks of the Schuylkill River, for miles above the points from which the water is taken for supplying the city. By this action the city has obtained the entire control of the banks of the river and the drainage into it for several miles, and has caused the removal, with a few exceptions, of every species of nuisance liable to contaminate the water within the jurisdiction of the city, and, moreover, has secured for our citizens one of the grandest parks in the world. But there still exist sources of contamination of no inconsiderable magnitude, to some of which the Board have lately directed the attention of Councils, and would urge again that they receive immediate consideration. The large amount of refuse and even sewage passing into the river from Manayunk and the Falls Village, must affect the purity of the water, though it may be in a slight degree. How to prevent this is a question for immediate determination. It has been suggested that a sewer might be constructed along the banks of the river to receive and carry off all waste material from Manayunk and the Falls Village. It is to be hoped that some measures will be determined upon at an early day. With each year there is an increase in the number of manufacturing establishments and population of these towns, and, consequently, an increased contamination of the water, which may in time render it unfit for domestic use.

The water supplied to the northeastern portion of the city, by the Delaware Works, is still the subject of complaint. It was

expected that by extending the feeding-pipe some distance into the river the quality of the water would be improved. This may be, but in so slight a degree as relatively to have no material effect upon the general character of the water. The immense quantity of filth of every description deposited in the river from the common sewers, estimated at over thirteen millions of gallons daily, and decomposing organic matter always floating about the wharves, which is carried up and down the river front by the tidal currents, and constantly agitated by the general traffic upon the river, must, of necessity, have a deleterious effect upon the water, even at a distance from the shore. Late scientific investigations have proved that some of the most severe diseases are produced by drinking water contaminated by human excreta and decomposing organic matter. It is our duty to guard against even the possibility of a chance of the pollution of the water supply. The citizens of that portion of the city dependent upon the Delaware Works, are now considering the advisability of securing water from another source, and with reason; for, in the opinion of this Board, water taken from the Delaware River at any point along the city front is totally unfit for domestic use.

#### KITCHEN GARBAGE.

The manner of collecting kitchen garbage is a frequent cause of complaint, and deserves a passing notice. This vast amount of waste material is collected by parties living in the environs of the city, free of expense to the same, for it is considered to be of sufficient value to compensate for the expense of collecting. The wagons and carts used for this purpose are not constructed so as to prevent the liquid portion of their contents from running out over the streets, where it festers and ferments, befouling and poisoning the atmosphere, especially in the hot summer months. It is recommended that an ordinance be created prohibiting, by a penalty, the use of any other than covered water-tight carts or wagons for the purpose of removing kitchen garbage, and forbidding the exposure or strewing of garbage on the sidewalks, or in the streets and alleys. This will effectually prevent a nui-

sance, which is not only offensive to citizens, but which operates injuriously upon the health of the city.

#### VENTILATION OF SEWERS.

Sewer-gas possesses a very poisonous nature, and is an active agent in the causation of disease. To prevent its escape into dwellings and the streets, traps are of invaluable service, provided that some means of liberating the pent-up gases of the sewers exists. Sewer-gas possesses great lightness, and when it has acquired a certain amount of pressure, traps are useless, for it will then force the best constructed trap. The highest localities, as a rule, generally suffer the most from this evil. In a number of cities in England typhoid fever has been traced to sewer-gas escaping into buildings from drains, though thought to be securely trapped, and this has occurred especially in the highest-lying parts of the cities. There can be no doubt that the noxious, deadly vapors, generated from the foul contents of the sewers, force their way into dwellings through drains and waste pipes, and in many cases the very air of sleeping apartments is polluted in this way. To illustrate the amount of pressure pent-up sewer-gas may acquire, we need only refer to the occurrence of a few weeks ago, in the neighborhood of Ninth and Green streets, where, on account of the inlets being completely and firmly closed by ice, the confined gases having no sufficient channel of exit, forced simultaneously in several places, with explosive power, the heavy iron caps covering the man-holes of the sewer, and hurled them through the air to a great distance. An effective outside ventilation of the sewers, especially at their highest points, is necessary, in addition to traps to prevent the baneful effects of sewer-gas liable to arise from its escape into dwellings.

This subject is one of no slight importance, for it touches causes imperiling the public health, which operate very generally throughout the whole extent of the city. It is believed that effectual trapping of house-drains and inlets, and thorough ventilation of sewers, are sanitary measures which will have great influence in preventing disease and protecting life. The import-

ance of well-constructed traps is recognized, and they are very generally used; sewer ventilation is no less important. They are almost useless, one without the other; but combined they afford an effectual barrier to the escape of the disease-engendering gases from the sewers. These suggestions are founded upon investigations which have been conducted in this country, and particularly in England, and demand more than ordinary consideration.

#### STREET CLEANING

is a sanitary measure of the highest importance in promoting the public health.

For the year 1871 the city was cleaned and ashes removed, under the contract made January 1, 1870, for two years, at a cost of \$160,408 63 per annum, paid to contractors; stationery, salaries, and incidentals, amounting to \$4,228 82, making a total of \$164,637 45 for cleaning the streets, removing the ashes, and attendant expenses. The city was divided into twenty-two street cleaning districts, and contracts entered into with thirteen contractors, a separate contract being made for each district. Undoubted security was taken in double the amount of each contract, by bond and warrant entered in the Department of Law, for the faithful performance of the contracts, the Board reserving twenty per cent. of the first three payments until the close of the year.

The streets were much better cleaned in 1871 than in either 1870 or 1869, and with fewer complaints from citizens and the public press. The contractors were required by the Board to continue the cleaning of the streets up to the last day of their contracts, viz., December 31, 1871. Work was proceeded with throughout the month of December upon every day the weather would permit, and on the first day of January, 1872, there was not a pile of dirt that had been collected together, nor a barrel or box of ashes on the sidewalks, unremoved, as far as could be ascertained after a careful examination by the inspectors of the Board.

Under no administration has the whole city been so thoroughly

cleaned as in 1871, and yet experience has demonstrated that the cleaning was not as perfect as the public demanded. The community has been educated up to a higher standard of cleanliness. The growth of the city, with its increased business, demands a closer attention to its sanitary condition than ever before. When we look at Delaware Avenue, Front, Second, Third, Fourth, Chestnut, Market, and Arch Streets, as well as many other thoroughfares, and observe the great increase in wholesale merchandizing, in comparison with what was done fifteen or twenty years ago, and consider that our population now numbers nearly 700,000, the most casual observer must come to the conclusion that street cleaning is no sinecure.

Therefore, after nearly three years of experience, the Board saw that, in order to keep the streets in a satisfactory sanitary condition, it would be necessary that they should be scraped and thoroughly swept at least once a week, and some of them every day. In view of this fact the Board, on October 17, 1871, advertised for proposals to scrape and sweep all the streets at least once a week for the years 1872, 1873, and 1874. On the 7th of November proposals were received, and the Board proceeded to open and examine the bids. On the 13th of November the City Sewage Utilization Company, by a bill in equity, ruled the Board into court, and asked that they be specially enjoined until further hearing, and perpetually thereafter, from awarding or making or entering into any contract for cleaning the streets of Philadelphia, to or with any person or persons other than the City Sewage Utilization Company. The Court granted the prayer of the company, and argument was heard on the 18th of December. The Board were represented by G. W. Biddle, and Samuel S. Hollingsworth, Esquires. After a most able and exhaustive argument by the counsel for the Board, the Court held the matter under advisement, and on the twenty-sixth day of December rendered their decision, enjoining the Board to enter into a contract with the City Sewage Utilization Company for ten years, from January 1, 1872, according to their charter and its supplements.

The following is the decision of the Court :

"The City Sewage Utilization Company *vs.* Henry Davis *et al.*, who are the Board of Health of the city of Philadelphia. Allison, P. J. The plaintiffs ask that defendants, who constitute the Board of Health of the city of Philadelphia, be enjoined from awarding, or making, or entering into any contract for cleaning the streets of Philadelphia, and removing the ashes therefrom, to any person or persons other than the plaintiffs. The first prayer of the bill amounts to no more than a request that we express an opinion that it is the duty of the Board of Health to contract with the plaintiffs upon the terms named in the charter of the company, and the supplement thereto.

"The act of May 9, 1869, is entitled 'An Act to incorporate the City Sewage Utilization Company,' and the act of April 9, 1870, is entitled 'A Supplement to the original law,' reciting in full the title of the first act. The first section of the supplement provides that the Board of Health, or other proper authority having the right to make contracts for street cleaning, *shall* enter into a contract with the plaintiffs to clean the streets of the city for a period of not less than ten years, at a rate which is \$16,000 per year less than the contract price then in force, for the first two years; for the second two years, \$26,000 per year less; for the third two years, \$36,000 per year less; for the fourth two years, \$46,000 per year less, and for the fifth two years, \$66,000 per year less—making a saving to the city, in this respect alone, for the term of ten years, of \$380,000.

"The defendants object to the injunction for which plaintiffs pray upon several grounds. The first point stated by them in their printed brief of argument is, that this Court does not possess the power to grant the relief which the plaintiffs ask us to give to them because of the restriction which the act of April 8, 1846, places on the exercise of such power by the Courts of the city of Philadelphia. This act is imperative upon us in a case which properly falls within its letter, or within its true intent and meaning. The command is, 'no such Court *shall* grant or continue injunctions against the erection or use of any public

work of any kind, erected or in progress of erection, under the authority of an act of the Legislature, till the question of title and damages has been settled by a Court of law.' The binding effect of this law has recently been recognized in the cases of *Windrim vs. The City*; in the matter of the repair of Girard Avenue Bridge, and in *Wheeler vs. Riee*, in a bill filed to restrain the erection of buildings at Broad and Market Streets, and in *Wolbert vs. The City*, 12 Wright, 439, the Supreme Court held that the plaintiff was 'barred out' of a Court of Equity by the act of April 8, 1846, in an effort to restrain the Commissioners of Fairmount Park from taking from him a right of way, which he claimed over lands taken by the Commissioners, because he had not first settled his right in a Court of law.

"This decision carries the application of this act to its utmost limit, and yet there is a sense in which to lay out and establish a public park may be held to be erection or construction; to construct a thing is to put together its several parts in their proper place and order, and to erect is to found and form, as well as to build or raise and set up. A park is made up in part of walks and roads, which are new constructions, and of ornamentation, with shrubbery and trees, which are set up in the places in which they are planted, and of booths and summer-houses, which are erected or built. But we are unable to say as much of the cleaning of the streets of the city; this is a work into which the elements of erection or construction do not, in our judgment, enter, and we are therefore unable to agree with the defendants that the plaintiffs are at this stage of their cause, and for this reason, 'barred out' of equity by the act of 1846.

"The second point of objection is, that the legislation on which plaintiffs rely is not mandatory upon the defendants; that it is not free from doubt, to say the least of it, whether it was intended to command the defendants to contract with plaintiffs upon the terms set forth in the act.

"The wording of the second section of the supplement is, 'the Board of Health, or other proper authority having the right to make contracts for cleansing the streets and removing the ashes

therefrom, *shall* enter into an agreement and contract with the City Sewage Utilization Company, for a period of not less than ten years.' And as the power to perform this kind of public service was, by the act of March 18, 1869, placed exclusively in the hands of the Board of Health, where it still remains, there is, upon this statement of the facts, no proper authority to make contracts for cleaning the highways of the city and removing fecal matter other than the Board of Health, nor has the contrary been asserted. There is no room, therefore, for doubt upon this point. But is there room for question that the direction to the defendants is obligatory upon them? or, is it possible to hold that, in the connection in which it is used, the word *shall* can be made to read *may*, so that the sentence would run, *may enter into a contract?* This latitude of construction is allowable when it is absolutely necessary to prevent irreparable mischief, or to construe a direction so that it shall not interfere with vested rights, or conflict with the proper exercise of power, by either of the fundamental branches of government. This was done in a late case of great gravity, in an able opinion delivered by my brother Ludlow, which, as Stevenson's Appeal, was afterwards affirmed by the Supreme Court; but we do not see in this act that which would justify us in interpolating into the supplement to the charter of the plaintiffs, language which it does not contain, and which, we think, would do violence to the intent and meaning of the act, and which, in our opinion, is clearly within the scope of legislative authority, even though it be conceded that it is unusual in its term. The powers of the Legislature being limited only by the restrictions upon it, which we found in the Federal or State Constitutions, we are at a loss to understand in what respects either of these instruments is violated by the charter of the plaintiffs, and as the Board of Health is at least a *quasi* municipal corporation, its franchises and powers are subject to legislative control, whether it be by way of enlarging or abridging such powers; it is the creature of the Legislature, and must go up or down at its command, having no vested right in any authority with which it has been clothed, so

far as the performance of public and corporate duty is concerned. It would be a waste of time to cite authority in support of this elementary principle. It is no valid objection, therefore, to this law to say that it is not common in its details, or that the Legislature directed the Board of Health to contract in a matter relating to the general purpose for which it was established and set out in detail the terms of such contract. Nor ought this to be questioned when the interests of the public are, upon the face of the direction, concerned to the extent of \$380,000, and incidentally to a much larger amount, as it appears to us must be the result if the law is fairly carried into effect.

"The third reason assigned against granting relief to the plaintiffs is, that the contract is not capable of being carried fully and literally into effect.

"The contract is to run for ten years at least, and the act gives to the city the option of purchasing the franchises of the company at any time after the year 1880; there may arise a question as to the time at which the city would be entitled to enter upon the enjoyment of the franchises of the company, if it should elect to purchase in 1881, for the reason that a contract entered into now, for ten years, would cover all of the year 1882; but that certainly is not a valid objection to making a contract at this time, especially as the entire question of price and terms of purchasing is to be settled by referees, the manner of whose appointment is provided for in the act, and whose decision is to be final and conclusive between the parties.

"The fourth point made by the defendants against the constitutionality of the act, is not, in our judgment, well taken. The clause of the constitution upon which they plant themselves is the amendment which directs that no bill shall be passed by the Legislature containing more than one subject, which shall be clearly expressed in the title.

"There is not the least obscurity in the title of this act. Its purpose is the incorporation of the City Sewage Utilization Company, and in the original act, besides the grant of corporate power necessary to carry into effect the general objects contem-

plated, is the authority given to contract with the city to cleanse its streets. The supplement enlarges these powers, so as to enable the plaintiffs to take charge of the removal of contents of cesspools and privies, and to erect and operate public urinals. But this enlargement of power does not refer to a subject or purpose which is not germain to the general result to be obtained by the original act, which is the utilization of the sewerage and other offensive matter of the city. These additional powers have relation to the same subject matter, and this is all that is contemplated by the amendment to the constitution which has been invoked by the defendants. The evil which the amendment was intended to correct was, embracing in one bill subjects which were foreign to one another, and which were, therefore, calculated to mislead and deceive. But that cannot be said of the acts incorporating and giving authority to the plaintiffs. No one ought to be misled as to anything contained in the acts; every power granted has relation, more or less, direct to the utilization of matter, which, to some extent at least, is carried off through the sewers of the city.

"The fifth objection is, we think, provided for by the clause which requires the plaintiffs to enter into security for the fulfilment of their contract in the sum of \$50,000, and the further provision which enables the Board of Health to annul the contract if not fully complied with by the plaintiffs.

"Injunction as prayed for, and as already granted, is therefore continued."

The Board had a contract prepared by their counsel, and submitted it to the City Sewage Utilization Company for their acceptance, embracing all the provisions that were named in the proposals invited October 17th, which contemplated having the streets cleaned every week, and also all the covenants embodied in the contracts made January, 1870.

The City Sewage Utilization Company objected to cleaning the streets once a week, cleaning market-houses, gutters under railroad crossings, &c. The points of difference were, by mutual consent, submitted to the Hon. Judge Allison, who kindly con-

sented to determine them, and the following contract was finally entered into by the Board with the City Sewage Utilization Company:

Articles of agreement made and concluded this first day of January, A. D. 1872, between the City Sewage Utilization Company, of the first part, and the city of Philadelphia, of the second part, in pursuance of a contract entered into by the Board of Health, of the city of Philadelphia, on behalf of said city, with the party of the first part, under the authority of an act of Assembly approved March 18, A. D. 1869, and entitled "An Act Supplementary to the act consolidating the city of Philadelphia, relating to the cleaning of streets of said city," and an act of Assembly approved April 9, A. D. 1870, and entitled "A Supplement to an act entitled 'An Act to incorporate the City Sewage Utilization Company,'" approved May 3, A. D. 1869, witnesseth, that the said party of the first part, for and in consideration of the covenants and agreements hereinafter contained, on the part of the city of Philadelphia, to be done and performed, hereby covenants and agrees to and with the city of Philadelphia, to clean and keep thoroughly clean at all times for the period intervening between the first day of January, A. D. 1872, and the thirty-first day of December, A. D. 1881, both inclusive, all the streets, alleys, courts, inlets, including all market-houses in and upon any public highway, gutters, gutters underneath railroad crossings, and inlets to all the public sewers, gutters of unpaved streets, and all other public highways within the city of Philadelphia, by cleaning and keeping thoroughly clean at all times, by scraping and thoroughly brooming, by machinery or otherwise, not less than once a month, and oftener if necessary, all the paved streets, alleys, courts, inlets, gutters, gutters under railroad crossings, gutters of unpaved streets, and all other public highways, including all market-houses in and upon any public highway, and the streets and outlets connected with them to be cleaned twice a week, immediately after market days, and all the said market houses to be washed not less than once a week, from the fifteenth day of April to the fifteenth day of October,

and for the immediate removal of all filth and dirt, after the same has been collected together, whether from streets, said market-houses, or otherwise; also, the removal of ashes and the collection and burial of all dead animals embraced within the said city of Philadelphia, and to remove, immediately upon collection of the same in the said city, all the filth, dirt, and other accumulations, and also, during the said period, to collect and remove, once each week, all ashes which shall have been placed upon the sidewalks, streets, lanes, courts, alleys, or highways, by residents, occupants, or persons having charge of stores, dwellings, and all other buildings, or which, by accident or otherwise, may be thrown into the streets, lanes, courts, alleys, or highways, within said city, said ashes to be removed in tight carts, securely roofed in such a manner as shall be approved by said Board, and also, during the same period, to collect, remove, and bury all the dead animals from said city. All the said work to be done under the supervision of the said Board of Health, and to their entire satisfaction.

And the city of Philadelphia, for and in consideration of the covenants and agreements hereinbefore mentioned, to be done and performed by the said party of the first part, hereby covenants and agrees to pay to the said party of the first part, on the full and faithful performance of all the aforesaid work, in the years 1872 and 1873, the sum of \$144,408 63 a year; in the years 1874 and 1875 the sum of \$134,408 63 a year; in the years 1876 and 1877 the sum of \$124,408 63 a year; in the years 1878 and 1879 the sum of \$114,408 63 a year; and in the years 1880 and 1881 the sum of \$94,408 63 a year, in warrants to be drawn by the said Board of Health on the City Treasury, in conformity with the first section of the act of Assembly, approved April 9, 1870, above mentioned, payable in equal monthly instalments; and provided further, that the warrant for any monthly instalment may be withheld by said Board if satisfied that the work required to be performed during such month has not been well and faithfully performed according to the terms of this agreement; and it is further agreed and understood by

the parties hereto, that if, in the opinion of the said Board, there shall be any failure, on the part of the party of the first part, to perform all or any of the requirements of this contract, the said Board, after ten days' written notice to said party of the first part, may, in addition to the remedies hereinbefore provided, absolutely annul this contract, or, at their option, have the work so neglected done at the expense of the party of the first part, the cost of such work to be paid out of said monthly instalments agreed to be paid to the said party of the first part; and it is further agreed and understood by the parties hereto, that nothing herein contained shall be so construed as to prevent the party of the second part from assuming and purchasing the franchises and privileges of the party of the first part at any time after the year A. D. 1880; provided, also, that in the event of the annulling of this contract by the said Board, or of their adoption of any of the remedies herein provided, the city of Philadelphia shall, nevertheless, be at liberty, without objection from the party of the first part, to sue or proceed against the party of the first part and their sureties, or either of them, under this contract, for all damages that may have been or shall be sustained by the city by reason of any default on the part of the said party of the first part.

In witness whereof, the said party of the first part has hereunto set its corporate seal duly attested, and the seal of the city of Philadelphia, attested by the Mayor thereof, and also by the President and Secretary of the Board of Health, hath been hereunto affixed the day and year first above written.

The Board are under great obligations to G. W. Biddle, Esq., for valuable services rendered in perfecting so good a contract with this company. Although it does not compel them to do all the Board could have desired, nevertheless the Board feel that in making this *compulsory contract*, they have discharged their full duty, and accomplished all that could have been done under the circumstances.

Special legislation is, to say the least, unwise when it descends into detail, giving directions how a great municipal corporation,

or one of the departments thereof, shall cleanse its streets, without such legislation being asked for by said corporation, its citizens, or any of its departments, thereby making a certain company a special favorite, under the pretence of economy, to the exclusion of all fair competition, and binding, hand and foot, for a period of ten years, the authorities of a city charged with the performance of a great sanitary duty.

The age in which we live is a progressive one, and who can say that there will be no improvement for the next ten years in street cleaning, by improved machinery and smooth paving, or that the work may not be done at even less than this favorite company of the Legislature have contracted for. However, as this company hold the contract for ten years, it remains to be seen whether, in the language of their charter, they will secure to the citizens of this great metropolis, "a more perfect cleaning of the highways, streets, lanes, and alleys," and "saving to the city of Philadelphia, by the ten years' contract, the gross sum of \$380,000." The Board desire, in this report, to place the fact on record, that they are not responsible for the contract entered into with this company; but, if they faithfully carry out its provisions, and place our streets in a more thorough sanitary condition than they have been heretofore, the Board will award all the praise due them.

The Board cannot but reiterate their conviction, as set forth in their report for 1870, that all permits for opening streets should issue from the Department of Highways, as well as that all paving should be done by that department, and in the most thorough manner, by selecting stones of a uniform size, to be laid in the best way, upon a good bed of gravel, and well rammed. Until this is done, and our streets kept in thorough repair, and surface drainage abandoned, complaints of dirty streets may be expected, whatever department may be charged with keeping them clean. It is to be hoped that Councils will pass an ordinance placing the opening and paving of streets under the exclusive jurisdiction of the Department of Highways, and hold that department responsible for the faithful performance of this work.

*Report of vessels visited during the year 1871.*

MONTHS.	BY PORT PHYSICIAN.						BY LAZARETTO PHYSICIAN.						Grand total vessels.		
	Steamers,	Ships,	Barks,	Brigs,	Schooners,	Total.	Steamers,	Ships,	Barks,	Brigs,	Schooners,	Total.	Foreign passengers		
1871.															
January.....	1	6	16	13	6	42	49	.....	.....	.....	.....	.....	.....	42	
February .....	1	2	18	25	24	70	3	.....	.....	.....	.....	.....	.....	70	
March.....	1	2	24	31	24	82	9	.....	.....	.....	.....	.....	.....	82	
April .....	2	3	28	49	25	107	6	.....	.....	.....	.....	.....	.....	107	
May.....	2	14	36	54	43	149	74	.....	.....	.....	.....	.....	.....	149	
June.....	.....	2	.....	1	.....	3	12	13	35	43	55	158	218	161	
July.....	.....	.....	.....	.....	.....	.....	12	6	32	34	40	124	17	124	
August.....	.....	.....	.....	.....	.....	.....	11	7	32	31	32	113	119	113	
September.....	.....	.....	.....	.....	.....	.....	11	7	28	24	11	81	12	81	
October .....	3	8	33	19	16	79	14	.....	.....	.....	.....	.....	.....	79	
November....	4	4	30	16	16	70	16	.....	.....	.....	.....	.....	.....	70	
December.....	3	4	11	12	1	31	6	.....	.....	.....	.....	.....	.....	31	
Totals .....	17	45	196	220	155	633	177	46	33	127	132	138	476	366	1109

## RECAPITULATION.

Steamers.....	63
Ships.....	78
Barques .....	323
Brigs.....	352
Schooners .....	293
	1109
Foreign passengers.....	543

*Table of Nuisances visited by Inspectors upon complaints made to the Board of Health during the year 1871.*

DESCRIPTION.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
Alleys and courts, filthy.....	2	.....	13	17	29	35	16	31	14	19	11	8	195
Bone boiling establishments.....		1	.....		2	.....	1	1	.....	1	.....	1	6
Cellars, filthy.....	15	25	60	51	31	106	75	71	70	67	36	17	624
Cow and horse stables, filthy.	1	.....	1	3	3	11	4	5	5	4	2	.....	39
Dead animals, offal, &c.....		2	.....			.....	1	1	.....	3	.....	1	7
Dye-houses, filthy.....		1	.....		2	1	1	1	.....				5
Fat-rendering establishments.....		1	.....	....	2	2	1	1	.....	1	.....	1	7
Gutters and unpaved streets..	1	.....	4	4	7	13	5	3	.....	2	1	40	
Houses, filthy and infected...	1	.....	6	15	7	9	13	15	12	105	109	115	407
Hogs and hog pens.....	3	.....	9	6	13	66	40	53	16	9	4	1	220
Manure heaps and poudrette pits.....	1	.....	5	6	6	16	12	14	5	6	3	3	77
Privy wells, full.....	33	41	101	123	205	198	202	232	131	149	106	57	1578
" " leaking.....	18	3	28	24	46	38	18	27	26	19	22	16	285
" " foul.....	3	.....	1	3	3	12	18	15	25	20	13	9	122
Ponds of water.....	3	.....	7	9	5	14	15	19	14	2	7	2	97
Slaughter-houses, filthy.....	1	.....	1	5	7	8	8	11	4	2	3	6	56
Water-closets, foul and leaky.	1	.....	2	1	13	2	1	3	1	3	8	4	39
Water-courses, filthy and defective.....	3	1	4	5	12	22	25	30	21	17	12	6	158
Water & drain-pipes, leaky...	5	4	10	7	3	4	10	8	10	13	10	8	92
Vacant lots, filthy.....	2	2	11	4	7	19	16	16	13	7	6	1	104
Yards, " .....		3	17	37	21	21	30	21	23	6	1	180	
Sinks, " .....	2	.....	1	1	2	.....	2	1	.....	1	1	1	11
Miscellaneous.....	2	.....	7	6	7	20	17	22	10	7	7	1	106
Infected bedding, &c (removed and destroyed).....		.....	.....	.....	.....	.....	.....	.....	17	50	114	181	
Totals.....	97	76	274	307	439	616	527	613	404	489	423	371	4636

Number of privy wells cleaned, for which permits were issued during the year 1871.

January, .	208	May, .	979	September, .	132
February, .	219	June, .	220	Oetober, .	436
March, .	729	July, .	230	November, .	385
April, .	801	August, .	215	Deeember, .	232
				Total, .	4,786

Permits issued for the removal of dead bodies during the year  
1871.

January, .	78	May, .	199	September, .	24
February, .	35	June, .	29	Oetober, .	179
March, .	162	July, .	28	November, .	123
April, .	220	August, .	14	Deeember, .	66
				Total, .	1,157

Permits issued for unloading fish, hides, and vegetables, from vessels during quarantine season of 1871.

June, . . . . .	32	August, . . . . .	20
July, . . . . .	22	September, . . . . .	22
			—
			96

Number of general permits issued to steamboat companies  
for unloading vegetables during the season, . . . . 13

Number of persons licensed to clean privy wells during the year 1871, . . . . . 55

*Appropriations and Expenditures.*

GENERAL APPROPRIATION.		Amount appropriated	Amount expended.	Balance merging.
Ordinance of City Councils, approved December 29, 1870.....		\$239,240 00		
<i>Item.</i>				
1. For salary of Health Officer.....		2,100 00	2,100 00	
2. For salary of Chief Clerk.....		1,800 00	1,800 00	
3. For salaries of two Assistant Clerks.....		2,000 00	2,000 00	
4. For salary of Registration Clerk.....		1,200 00	1,200 00	
5. For salaries of three Assistant Registration Clerks.....		2,550 00	2,550 00	
6. For salary of Port Physician.....		1,200 00	1,200 00	
7. For salary of Runner.....		500 00	500 00	
8. For salaries of four Nuisance Inspectors and two Messengers.....		3,960 00	3,960 00	
9. For salary of Night Inspector.....		660 00	660 00	
10. For salaries of two Vessel Inspectors, from June to October.....	\$720 00			
By transfer to Item 22, approved October 21, 1871.....	360 00			
		360 00	360 00	
11. For pay of eleven Vaccine Physicians and eleven Collectors.....		5,000 00	4,991 50	8 50
12. For fuel, furniture, repairs, postage, and incidentals.....		700 00	663 63	36 37
13. For printing, advertising, books, news papers, blanks, and stationery.....		700 00	676 31	23 69
14. For removal of nuisances.....		10,000 00	9,979 37	20 63
15. For carriage hire and railroad tickets for district committees.....		500 00	500 00	
16. For carriage hire and railroad tickets for burial ground and poudrette committees, and for expenses incurred in executing the poudrette laws.....		400 00	350 25	49 75
17. For use of Committee on Registration in executing the Registration Act, and for expenses of office; also, for books, stationery, blanks, and advertising.....		1,200 00	1,190 18	9 82
18. For salary of Lazaretto Physician.....	1,500 00			
Transfer from Item 32, approved June 5, 1871.....	795 70			
		2,295 70	2,295 69	01
19. For salary of Quarantine Master.....	1,000 00			
Transfer from Item 32, approved June 5, 1871.....	795 70	1,795 70	1,795 70	
Amounts carried forward.....		\$33,921 40	\$38,772 63	\$148 77

*Appropriations and Expenditures—Continued.*

GENERAL APPROPRIATION.		Amount appropriated	Amount expended.	Balance merging.
Amounts brought forward.....		\$38,921 40	\$38,772 63	\$148 77
<i>Rem.</i>				
20. For salary of Steward, Lazaretto.....		1,200 00	1,200 00	
21. For salary of Gardener, Lazaretto.....		240 00	240 00	
22. For salaries of Bargemen (or Tugmen) and Engineer, Lazaretto.....	2,700 00			
Transfer from Item 10, approved October 21, 1871 .....	360 00			
23. For salaries of male nurses, Lazaretto.....		3,060 00 150 00	3,040 00 66 90	20 00 83 10
24. For salaries of female nurses, Lazar'o.....		200 00	100 00	100 00
25. For salary of watchman, Lazaretto.....		100 00	100 00	
26. For clothing, bedding, brushes, furniture, soap, cleansing, and incidentals, Lazaretto.....	800 00 Transfer from Item 51, approved October 21, 1871.....	200 00		
27. For medicines, lime, coffins, and burial expenses. Lazaretto.....		1,000 00 300 00	979 68 287 29	20 32 12 71
28. For coal, oil, paints, fluid, flags, boats, and repairs, Lazaretto.....		600 00	243 27	356 73
29. For carriage hire and railroad tickets for Lazaretto Committee.....		200 00	161 00	39 00
30. For board and washing the clothing of bargemen, tugmen, nurses, patients, and officers, Lazaretto.....		1,200 00	942 41	257 59
31. For general repairs to buildings, grounds, and appurtenances, and for taxes and insurance, Lazaretto.....		2,500 00	2,402 25	97 75
32. For outside channel visits, and taking vessels to quarantine, and for quarters for boats, bargemen, &c. (including the maintenance of a steam tug-boat), Lazaretto.....	4,500 00 By transfer to Items 18 and 19, approved June 5, 1871.....	1,591 40		
33. For carrying mails, porterage, and postage, Lazaretto.....		2,908 60	2,007 42	901 18
34. For ice and filling ice-house, Lazaretto.....		200 00	198 32	1 68
35. For medical attendance, municipal hospital.....		300 00	272 85	27 15
36. For salary of matron, municipal hospital .....		2,000 00	2,000 00	
37. For salaries of laundresses, municipal hospital .....		500 00 240 00	500 00 240 00	
Amounts carried forward.....		\$55,820 00	\$53,754 02	\$2,065 98

*Appropriations and Expenditures—Continued.*

GENERAL APPROPRIATION.		Amount appropriated	Amount expended.	Balance merging.
Amounts brought forward.....		\$55,820 00	\$53,754 02	\$2,065 98
<i>Item.</i>				
38. For salaries of male nurses, municipal hospital.....		840 00	795 00	45 00
39. For salaries of female nurses, municipal hospital.....		480 00	417 58	62 42
40. For salary of fireman, municipal hospital .....		300 00	215 00	85 00
41. For salary of watchman, municipal hospital .....		300 00	300 00	
42. For salaries of two gardeners, municipal hospital.....		500 00	420 00	80 00
43. For board and washing for patients, nurses, and officers, municipal hospital .....		3,900 00	3,892 97	7 03
44. For clothing, bedding, furniture, repairs, and incidentals, municipal hospital .....	800 00			
Transfer from Item 51, approved October 21, 1871.....	1,000 00	1,800 00	1,794 84	5 16
45. For fuel, lights, brushes, soap, cleansing, and incidentals, municipal hospital .....		1,500 00	1,485 34	14 66
46. For medicines, coffins, and burial expenses, municipal hospital.....		800 00	784 81	15 19
47. For carriage hire and railroad tickets, conveyance of patients, tolls, portage, and postage, municipal hospital, Transfer from Item 51, approved October 21, 1871.....	500 00 400 00			
		900 00	854 01	46 99
48. For general expenses of the sanitary committee, printing, blanks, and stationery, municipal hospital.....		300 00	294 75	5 25
49. For purchase of horses, vehicles, and harness, and for keep of and repairs to the same, municipal hospital.....	1,200 00			
Transfer from Item 51, approved October 21, 1871.....	500 00			
		1,700 00	1,684 44	15 56
50. For insurance and general improvements and repairs to buildings, grounds, and appurtenances, including the maintenance of a telegraph, municipal hospital .....		1,200 00	1,126 28	73 72
51. For pay of contractors for cleansing the streets and markets, and removing the ashes, dead animals, and garbage therefrom, .....	165,000 00			
By transfer to Items 26, 44, 47, and 49, approved October 21, 1871.....	2,100 00	162,900 00	161,008 53	1,891 47
Amounts carried forward .....		\$233,240 00	\$228,827 67	\$4,412 43

*Appropriations and Expenditures--Continued.*

GENERAL APPROPRIATION.	Amount appropriated	Amount expended.	Balance merging.
Amounts brought forward.....	\$233,240 00	\$228,827 57	\$4,412 43
<i>Item.</i>			
52. For stationery and printing (street cleaning).....	2,000 00	783 97	1,216 03
53. For salaries, street cleaning.....	3,000 00	2,460 00	540 00
54. For incidentals, street cleaning.....	1,000 00	984 85	16 15
Totals.....	\$239,240 00	\$233,056 39	\$6,183 61

SPECIAL APPROPRIATIONS.	Amount appropriated	Amount expended.	Balance carried over.
Ordinance of City Councils "to defray expenses incurred, or to be incurred, by the Board of Health, for public vaccination, the treatment of patients at the municipal hospital, the cleansing and disinfecting of infected localities, and all other expenses incident to the treatment and extinction of small pox," approved November 25, 1871.....	\$15,000 00		
Additional appropriation, approved December 9, 1871.....	15,000 00	\$30,000 00	\$25,098 92
			\$4,901 08

## RECAPITULATION.

Ordinance approved December 29, 1870.....	\$239,240 00	\$233,056 39	\$6,183 61
Ordinances approved November 25, 1871, and December 9, 1871.....	30,000 00	25,098 92	4,901 08
Totals.....	\$269,240 00	\$258,155 31	\$11,084 69

*Receipts during the year 1871.*

Fees on vessels from foreign ports, . . . . .	\$7,276 00
Fees on coasting vessels, . . . . .	396 00
Examination of passengers, . . . . .	136 00
Outside channel fees at Lazaretto, . . . . .	2,000 00
Repayment of costs for the removal of nuisances, . .	5,441 09
Board of patients at the hospitals, . . . . .	426 84
Licenses to clean privy wells, . . . . .	2,750 00
Permits for removing dead bodies, . . . . .	578 50
Permits for cleaning privy wells, . . . . .	5,840 00
Permits for unloading fish, hides, &c., . . . . .	113 00
Miscellaneous, . . . . .	722 00
Total, . . . . .	<u>\$25,679 43</u>

Amount of unpaid claims for removal of nuisances,  
&c., placed in the hands of City Solicitor for col-  
lection by lien, or otherwise, during the year 1871, \$1,324 49

Respectfully submitted,

HENRY DAVIS,

*President.*

CHAS. B. BARRETT,

*Secretary.*

## APPENDIX.

## LAZARETTO STATION,

*March 5, 1872.*

CHAS. B. BARRETT, Esq.,  
*Secretary Board of Health.*

SIR:—The operations at the quarantine station present but little of public interest.

No vessels arrived sufficiently infected to occasion alarm for the health of the city or station, and no contagious diseases were treated at the hospital. The health of all persons connected with the Lazaretto has been good during the season just closed. Annexed please find a recapitulation of the total business of the quarantine for the year.

Respectfully submitted,

J. HOWARD TAYLOR,

### *Lazaretto Physician.*

## RECAPITULATION

of vessels visited at the Lazaretto during the quarantine season of 1871.

## MUNICIPAL HOSPITAL,

*Philadelphia, February 28, 1872.*

To the PRESIDENT and MEMBERS  
of the BOARD of HEALTH.

GENTLEMEN:—I have the honor to transmit to you the annual statement of the operations of the Municipal Hospital, for the year ending December 31, 1871.

Philadelphia has never before been visited by an epidemic of small-pox that will compare in magnitude or malignancy with the one that is now invading us, and the number of cases admitted into the hospital for treatment during the past year is also unparalleled in the history, not only of this, but of all the hospitals of a similar character, that have heretofore existed in Philadelphia.

My report will show the presence of small-pox in the city, to a limited extent only, throughout the first six months of the year. It was not until about the middle of August, that the disease showed indications of an approaching epidemic. During the latter part of August, and the month of September, there was a gradual increase in the number of cases, followed by a very rapid increase throughout the months of October, November, and December, each successive month, as it were, rivalling its former in numbers, until we find our city at the close of the year, at the very climax of an epidemic of small-pox of no ordinary type.

I regret, therefore, that in the discharge of duty I am called upon at this stage of the epidemic to prepare a report, for two reasons, viz.: First, because of the want of time, owing to the

rapidly increasing number of patients, to fully analyze the notes that I have taken, which are spread over many pages of the Record Book.

Second, because I feel that it is in a measure unfair, if not unwise, to present to the public, statistics which include only the origin and development of an epidemic.

I trust, therefore, that all due allowance will be made for the statistics presented under these circumstances, and promise when the epidemic shall have ended, to present a general report upon it, comprising not only its origin and development, but also its climax and decline.

The following table will show the number of patients remaining in the hospital January 1, 1871, the number admitted during the year, the number discharged, the number died, and the number remaining under treatment December 31, 1871 :

Remaining Jan. 1, 1871.	Admitted.	Discharged.	Died.	Remaining Dec. 31, 1871.
3	1,249	602	363	287

The ordinary capacity of the hospital is one hundred and ninety beds, independent of the room occupied by the nurses and attendants, while you have seen by the table that two hundred and eighty-seven patients are being provided for. The highest number under treatment at any one time was three hundred and twelve, being one hundred and twenty-two more than the ordinary capacity of the building. In order to meet this extraordinary demand we have improvised room by enclosing two of the large corridors, each of which will accommodate from twenty-five to thirty convalescents ; and in addition to this, we have pitched a number of army hospital tents, which with board floors and coal stoves, are made comfortable, even in the coldest weather.

Notwithstanding the extraordinary demand upon our room, I have scrupulously guarded against over-crowding my sick patients. If, in any emergency, anything like over-crowding has been practised, it has been among the convalescents who have

passed beyond any contingent danger from the disease. The principal wards of the hospital receive the sick as they arrive and each adult patient has for his or her share twelve hundred cubic feet of air; this, with due regard to ventilation and disinfection, will maintain an atmosphere in the wards not at all unpleasant.

The ordinary cooking apartment was also found inadequate to our wants, and in order to meet the requirements it became necessary to erect a temporary kitchen, and to supply it with the ordinary cooking appliances. We are now prepared to cook for five hundred patients. A new oven has also been erected, and is now in successful operation. It is large enough to bake one hundred and twenty-five loaves of bread at one time.

A more thorough supply of water and the introduction of gas are the two most pressing needs of the hospital at this time. So long as the hospital must depend for its supply of water upon the uncertain source of a cistern or well, and this water requires to be raised to the top of the building, there to be received into a large receptacle, where, in cold weather, it is liable to freeze, thus interfering with its proper distribution; and so long as the engine that pumps the water is liable to get out of repair, and skilled mechanics cannot be induced to enter the building in times of an epidemic, when it is filled with a contagious disease, to make repairs, just so long will the supply of water remain imperfect. It is within bounds when I state that fully one-half of all the water used throughout the present epidemic has been carried in buckets for a distance of half a square. The embarrassments arising from this source interfere very materially with the efficient working of a hospital of this size and character. This you will readily appreciate, and I have no doubt a remedy will be sought by you that will obviate the difficulty and give us an abundant supply of water.

The apparatus introduced only a year or two since for the purpose of manufacturing gas from gasoline, has proved, for some reason, not merely dissatisfactory, but entirely useless. Our only alternative, then, has been coal oil, the use of which is not

only inconvenient but more or less dangerous ; for we have had a number of explosions through its use, which, with the scarcity of water, might have proved a serious loss to both life and property. The remedy that is needed to supply this want will, no doubt, also be sought by you.

*The admissions into the hospital, with variolous and other diseases, in the several months of the year, were as follows :*

MONTHS.	Variolous Disease,	Other Diseases.	TOTALS.
January .....	5	2	7
February .....	2	...	2
March .....	3	3	6
April .....	6	...	6
May .....	5	3	8
June .....	3	2	5
July .....	2	...	2
August .....	13	2	15
September .....	25	...	25
October .....	228	1	229
November .....	437	3	440
December .....	498	6	504
Totals.....	1,227	22	1,249

The diseases classified in the preceding table as "Other Diseases," may be divided as follows:

DIAGNOSIS.	Admitted.	SEX.		COLOR.		Died.
		Male.	Female.	White.	Black.	
Scarlatina.....	2	2	...	1	1	
Relapsing Fever.....	3	1	2	3	...	
Varicella .....	1	...	1	...	1	
Lichen .....	1	...	1	1	...	
Hepatic Derangement.....	1	1	...	...	1	
Diarrhœa.....	1	1	...	...	1	
Strophulus.....	1	1	...	1	...	
Rubeola.....	1	...	1	1	...	
Debility.....	1	...	1	1	...	1
Paralysis.....	1	...	1	1	...	*1
No Disease.....	9	2	7	9	...	
Totals.....	22	8	14	18	4	2

\* This patient died January 27, 1872.

The two cases of scarlatina were of the employees at the hospital, one of whom seems to be peculiarly susceptible to all varieties of contagious disease; for within a comparatively short time, he has passed through respectively varioloid, relapsing fever, and scarlet fever, from the last of which he barely recovered, after a tedious and painful illness of one hundred days.

The three cases of relapsing fever were admitted during the month of May. They all came from a tenement house on Maryland Street, in the vicinity of Sixth and Race Streets, where I learned there had been in all about one dozen cases. The disease, however, was prevented from spreading through the prompt and efficient action of your Board.

The only feature of interest in these cases is, that one of them, a babe only nine months old, passed through a regular course of the disease, relapsing on the fourteenth day; being one of the youngest subjects of relapsing fever I have ever met.

The subjects of varicella, lichen, strophulus, and rubeola were all sent to the hospital, as cases of variola.

These mistakes, which might have been serious in their results, proved innocent, inasmuch as we were able at that time to separate these patients from our variolous subjects. The case of varicella, however, was placed, before I saw it, in a ward along with variolous patients; as soon as the mistake was discovered, the child, unprotected by vaccination, was at once vaccinated. This proved successful, and variola was prevented.

The patients with hepatic derangement and diarrhoea, were sent to the hospital from a vessel, under circumstances suspicious of typhus fever, which, however, did not result as such. ¶

The case of "Debility" was an infant, aged two days, born at seven months of utero-gestation, and sent to the hospital with its mother, who had variola. It died of sheer debility one hour after its admission.

The case of paralysis, a female, aged thirty years, was sent to the hospital along with her husband and entire family consisting of four children. The children were all unvaccinated, all had variola, and all died. The husband had been vaccinated in infancy, showed three fair cicatrices, had varioloid mild, and recovered. The patient with paralysis, had also dementia, and was, therefore, unable to give any intelligent account as to whether or not she had ever been vaccinated, but after a thorough examination, I was unable to find the slightest trace of a vaccine cicatrix, nor was I able to discover any evidence to show that she had ever had variola. Notwithstanding this, she was an inmate of the hospital, and surrounded with small-pox patients for a period of sixty-four days, at the end of which time she died, without having contracted variola.

The nine admissions, classified as "No Disease," were in good part, either mothers admitted with their babes, who had variolous

disease, or else babes admitted with their mothers, who had variolous disease. Their names were recorded for the purpose of noting the degree of protection afforded by their vaccinations, and as we find them classified as "no disease," they proved, therefore, perfectly protected.

By analyzing the notes on their cases, we find as follows: Six were adults, one a boy of eight years, and two were babes. Four of the adults were protected by their vaccination of infancy, one of which I subjected to the test of a re-vaccination without any result. The other two had been successfully re-vaccinated since the age of puberty. The boy, eight years old, had been vaccinated in infancy, and showed a very good mark. And the two babes, aged ten months and three months, had both been recently and successfully vaccinated. One eight days, the other, two or three months prior to admission.

The following is a table of the variolous diseases, divided into variola and varioloid. Showing the number of admissions of each, together with the number of deaths, and the rate of mortality of each.

DISEASE.	Admitted.	Died.	Percentage of Deaths.
Variola .....	677	353	52.14
Varioloid.....	550	8	1.45
Totals.....	1,227	361	29.42

In making a differential diagnosis, between the two varieties of the disease, I have paid no regard as to whether my patient had or had not been vaccinated, except to classify all unvaccinated cases, no matter how mild, as variola. The difference between the two, variola and varioloid, being one of degree rather than of kind, the distinction which is made, must, therefore, be an arbitrary one. There is, however, no difficulty in drawing this line of distinction between well marked cases of either variety; but when it becomes

difficult to decide, whether the vaccination is or is not exercising any modifying influence, then the diagnosis cannot be so clearly made. The rule which I have adopted in forming my diagnosis has mainly been to classify all cases as varioloid which have been vaccinated, and in which the rash reaches its height on or before the sixth or seventh day from its first appearance. While I have classified as variola all unvaccinated cases, all malignant cases, and all others in which the rash has not arrived at maturity prior to a period varying from the seventh to the tenth day.

We have seen by the table that the rate of mortality among the variola cases has been 52.14 per cent., while among the varioloid cases it has been only 1.45 per cent. This comparatively low death rate of varioloid, finds its explanation in the diagnostic distinction which I have made between the two varieties of the disease. In all the deaths from varioloid there has been either some constitutional peculiarity or some intercurrent disease that has been auxiliary in terminating life.

We have reported three hundred and sixty-three deaths, and have accounted for three hundred and sixty-two in our tables, leaving one still unaccounted for. This was the case of a female, aged sixty years, admitted with varioloid, from which she entirely recovered; but during the initial stage of the disease, before entering the hospital, in a state of delirium, she jumped from the third-story window of the building where she resided, and sustained such injury to her ankle joint as resulted in a suppurating wound, giving rise to pyemia, of which she died after a residence of twenty-seven days in the hospital.

The number of variolous patients admitted during the year is twelve-hundred and twenty-seven (1227). This, of course, includes all, from the mildest form of varioloid to the gravest type of variola. From this number we had three hundred and sixty-one deaths; giving a rate of mortality of 29.42 per cent. This is extraordinarily high; but then, I think, if due allowance be made for hospital excess, it will compare favorably with the general results of the city.

The Health Officer has informed you that during the same period of time eight thousand one hundred and fourteen (8,114) cases were reported in the city, from which there were one thousand eight hundred and seventy-nine (1879) deaths; the rate of mortality being 23.15 per cent. These figures, together with all others that I shall present, afford conclusive evidence to prove the correctness of what I have already stated, viz.: that the present epidemic is of an extraordinarily malignant type.

The following table will show the number of white and black patients admitted with variolous disease, the deaths, and the rate of mortality of each:—

COLOR.	Admitted.	Died.	Per cent. of Deaths.
White .....	1,041	297	28.53
Black .....	186	64	34.4
Totals.....	1,227	361	29.42

We learn from these figures that the percentage of deaths is greater among the blacks. This may be accounted for from the fact that blacks are not only more susceptible to the disease, but that a larger proportion of them have been admitted unvaccinated. I regret that I have not had time to separate the unvaccinated white from the unvaccinated black, for that would have determined whether the blacks, according to the general impression, are more susceptible to the disease than the whites. This information I will furnish you at another time.

In examining the vaccine cicatrices of the blacks I have observed one peculiarity, which is, that instead of being slightly excavated and pitted, or honey-combed, they frequently present a slightly elevated appearance, smooth and glossy. If, however, they are the result of genuine vaccinations, they prove equally protective.

The following table will show the sex of the patients admitted with variolous disease, the number of deaths, and the death-rate of each :—

SEX.	Admitted.	Died.	Per cent. of Deaths.
Male .....	817	233	28.51
Female .....	410	128	31.21
Totals.....	1,227	361	29.42

It appears from this table that the number of males admitted has been about double that of the females, while the percentage of deaths of females exceeds that of the males—a difference for which I have no explanation to offer.

The following table will show the admissions of variolous subjects between the ages there designated, together with the number of deaths and the rates of mortality :—

AGES.	Admitted.	† Died.	Per cent. of Deaths.
Under 1 year .....	12	0	83.33
1 to 15 years.....	162	60	37.
15 to 25 years.....	599	185	30.88
25 to 45 years.....	383	108	28.19
45 years and upwards.....	71	24	33.8
Totals.....	1,227	387	31.54

† This table includes the deaths that have occurred this year from among the patients remaining in the hospital, January 1, 1872.

In this table we find that by far the highest rate of mortality is, just as we would expect, among infants under one year of age.

By consulting the notes on their several cases, we learn as follows :—

Seven of the twelve—aged 3, 5, 6, 7, and 9 months—were all unvaccinated, and all died. The other five had been very recently vaccinated. One, a babe 4 months old, had been vaccinated only five days prior to the appearance of the eruption, had variola, and died on the eighth day of the rash. Another babe, aged 5 months, was admitted unvaccinated and well, with its mother, from whom it was nursing, and who had variola. It was vaccinated the following day ; a feeble vaccine vesicle appeared ; but one week subsequent to the date of vaccination the variolous eruption showed itself ; the throat became involved, difficult respiration ensued, and the child died on the eighth day of the rash, from a varioloid attack.

Another babe, aged seven months, well, but unvaccinated, was admitted, with its mother, who had variola, and from whom it was nursing. It was vaccinated the following day, a feeble vaccine vesicle developed, but six days from the date of vaccination the variolous eruption appeared, and the child died of variola on the fifth day of the rash. Its death was preceded by convulsions.

Another babe, aged ten months, was admitted, without its mother, with discrete variola on the seventh day of the eruption. It had been vaccinated, judging from the appearance of the vesicle, about ten days prior to its admission, or three days before the appearance of the eruption. Its case progressed favorably, desquamation was rapid, and the child recovered ; but I do not think the disease was modified by the vaccination.

And the other babe, aged three months, had been vaccinated about eight days prior to the appearance of the eruption, and showed a very good vaccine vesicle. It had a very mild attack of varioloid, the eruption consisting of only three or four vesicles, which did not apparently disturb its general health. It had been vaccinated after exposure, for a brother, unvaccinated, had died of variola.

From these facts, then, we learn that variola in unvaccinated infants is almost uniformly fatal ; and that vaccination per-

formed less than seven days prior to the appearance of the eruption, will not modify the disease, but when performed as long as seven or eight days prior it may so far modify the disease as to render it harmless.

These facts I have verified time and again in children at other ages; and indeed I cannot see any good reason for expecting any benefits from vaccination until the system is brought thoroughly under the influence of the vaccine disease, which, in all probability, does not take place before the maturation of the vaccine vesicle. If a genuine vaccination has reached this stage of development before an exposure to variola, I am fully convinced that it will almost certainly afford immunity from the disease.

The next period of life noted in the table, viz.: from one to fifteen years, gives us the next highest rate of mortality. I regret here again, that I have not had time to divide these admissions into vaccinated and unvaccinated, that we might learn the degree of protection which vaccination affords up to the age of puberty. This information I will also furnish you at another time. I have no doubt, however, that it will show very satisfactory evidence in favor of recent vaccinations.

The third period of life, from fifteen to twenty-five years, while it is the shortest period noted in the table, except that of infancy gives us by far the largest number of admissions, showing, as I believe, the increased susceptibility on the part of those vaccinated in infancy to the disease after the age of puberty, and especially during adolescence. There is nothing in the death-rate, comparatively speaking, that is remarkable.

The period of life from twenty-five to forty-five years, shows the lowest rate of mortality; while from forty-five years upwards, the death-rate is again increased.

The following table will show the number of variolous subjects admitted unvaccinated, the number of deaths and the death-rate; also, the number that had been vaccinated in infancy, dividing them into those showing either good, fair or poor vac-

trices, together with the number of deaths, and the rate of mortality among those of each division :

*	Admitted.	Died.	Per cent. of Deaths.
Not vaccinated.....	390	254	65.12
Vaccinated in infancy } good cicatrix	332	33	9.93
Vaccinated in infancy } fair cicatrix	166	27	16.26
Vaccinated in infancy } poor cicatrix	301	68	22.59
Total number vaccinated ...	799	128	16.

\* There is a discrepancy of 38 between the number of admissions noted in this table, and the number noted in the other tables, which finds its explanation in the fact that some of the patients died unexamined, while a few others had been so recently vaccinated as to preclude their classification in this table.

Those that have died this year (1872) from among the patients remaining in the hospital January 1, 1872, are included in this table.

I have classified in the table as good cicatrices all those with a well defined margin, slightly excavated, and pitted or honey-combed, as they are sometimes aptly described; while those presenting these characteristics to a much less degree, I have classified as fair; and those as poor which are pointed out by the patient as the result of vaccination, but which are so indistinct, or uncharacteristic, as to make it difficult to recognize them as vaccine scars.

The proportion of deaths among the unvaccinated, as appears from the table, is indeed enormous. It is just double the ordinary death-rate, which has long been regarded as 33 per cent., and so I believe the death-rate of those vaccinated in infancy, is out of its ordinary proportion to the extent of being multiplied by two.

There are two reasons that may be assigned for these large mortality rates, and I believe only two. The first and chief

reason is, the virulence of the epidemic. The second, that in many instances only the graver cases are sent to the hospital, and many of these not until all hope of their recovery is passed.

But the table teaches more than the great virulence of the epidemic. It demonstrates most clearly the protective power of vaccination, and more than this, for it also demonstrates, with equal clearness, that in the appearance of the vaccine cicatrices there is evidence to show the degree of protection afforded. For among those presenting good cicatrices the rate of mortality is by far the lowest, while of those showing fair cicatrices the rate is still lower than among those showing poor cicatrices.

What then is the lesson to be learned from these facts? It is very short, very clear, and very important. It is, Vaccinate! Vaccinate thoroughly, and secure for your patients, if possible, good cicatrices.

In our table we have found the percentage of deaths among our post-vaccinal cases to be 16 per cent. Let us suppose then that the three hundred and ninety (390) unvaccinated cases had been vaccinated in infancy; instead of having two hundred and fifty-four (254) deaths, they would have been reduced to sixty-two, (62) a saving of one hundred and ninety-two (192) lives by vaccination. Again, let us suppose that all who were admitted during the year had been thoroughly vaccinated in infancy, and good cicatrices had been secured; instead, then, of having three hundred and eighty-two (382) deaths, as appear in the table, we would have had only one hundred and eighteen, (118) a saving of two hundred and sixty-four (264) lives.

And now let us apply the same reasoning with reference to the whole number of cases of small-pox (8,114) that have occurred in Philadelphia thus far in the epidemic (to January 1, 1872), and see what results it will give us.

Taking, then, as our basis, the hospital record as exemplified in the table last referred to, we may estimate as follows:—

First. The whole number of unvaccinated variolous cases that have occurred in Philadelphia.

Second. The number showing good vaccine marks.

Third. The number showing fair vaccine marks.

Fourth. The number showing poor vaccine marks.

We may estimate the number of cases occurring under each of these classifications, by proceeding as follows: As the number of cases admitted into the hospital is to the whole number of cases in the city, so is the number of cases, admitted into the hospital unvaccinated, or vaccinated in infancy, showing either good, fair, or poor cicatrices, to the whole number of cases that has occurred in the city unvaccinated, or vaccinated in infancy, showing either good, fair, or poor cicatrices. For example, as 1189: 8114:: 390: 2661, the number that has occurred in the city unvaccinated. Then, as 1180: 8114:: 332: 2266, the number that has occurred in the city, vaccinated in infancy, and showing good cicatrices. Then, as 1189: 8114:: 166: 1133, the number that occurred in the city, vaccinated in infancy, and showing fair cicatrices. Then, as 1189: 8114:: 301: 2054, the number that occurred in the city, vaccinated in infancy, and showing poor cicatrices.

In like manner, we may estimate the number of deaths that has occurred in the city from among those unvaccinated, or from among those vaccinated in infancy, showing either good, fair, or poor cicatrices. This I have done and I will present to you the following table, which I have made from these estimated numbers:—

	Cases.	Died.	Per cent. of Deaths.
Number of cases unvaccinated in Philad'a	2,661	1,249	46.93
" " } vaccinated in infancy, } showing good cicatrices	2,266	162	7.14
" " } vaccinated in infancy, } showing fair cicatrices..	1,133	133	11.73
" " } vaccinated in infancy, } showing poor cicatrices	2,054	335	16.3
Total number of post-vaccinal cases...	5,453	630	11.55

In our table then, we find that 46.93 per cent. is the rate of mortality among the unvaccinated cases in the city, while the mean percentage of deaths among the vaccinated is only 11.55 per cent. Let us suppose, then, that the 2,661 unvaccinated cases had been vaccinated in infancy, instead of having 1,249 deaths they would have been reduced to 307, a saving of 942 lives. Again let us suppose that all the subjects of small-pox in Philadelphia had been not simply vaccinated in infancy, but thoroughly vaccinated and good cicatrices secured, then instead of the enormous mortality from this loathsome and terrible disease, to the extent of 1,879 deaths (the number that occurred in the city during the year), it would have been in an epidemic of unparalleled malignancy only 579—a saving of 1,300 lives. Yes, more than thirteen hundred (1,300) lives could have been saved, for this estimate assumes that every one of those who had small-pox, would also have had it, had they been thoroughly vaccinated, which would not have been the case. It is, I think, pretty generally conceded by authorities, that thorough vaccination in infancy will protect 50 per cent. for a lifetime. Hence to form an estimate that will more nearly approximate the truth, we proceed as follows: Take from 8,114—the total number of cases that occurred in the city—2,266, the number that showed good cicatrices, and there remains 5,848, the sum total of the number unvaccinated, and the number vaccinated in infancy that did not show good cicatrices.

Well now according to what is generally conceded, if this number had all been thoroughly vaccinated in infancy, only 50 per cent. of them would have had small-pox; the other 50 per cent. would have enjoyed immunity. 50 per cent. of 5,848 is 2,924; this, added to 2,266, the number with good cicatrices that had small-pox, gives us 5,190, which would have been the sum total of cases in the city instead of 8,114. We have found the death-rate among those showing good cicatrices to be 7.14 per cent. The total number of deaths then in the city, would have been only 370 instead of 1879 a saving of 1,509 lives. This estimate is yet wide of the mark, for we have seen that by

thorough vaccination in infancy 2,924 would not have contracted variola. Who then can estimate the number that contracted the disease from these? It is reasonable to suppose that very many did. If, the number that did could be estimated and deducted from the 5,190, it would have reduced the total number of cases in the city still lower, and also the number of deaths in the same ratio. Ah! we may deal with figures as we will, and while to a certain extent they show us facts, they fail to demonstrate the incalculable benefits resulting from vaccination.

One fact that we are able to demonstrate is that 1,500 lives—all lost within a few short months—might have been spared in Philadelphia alone if vaccination had been thoroughly performed in infancy. Yes, 1,500 lives; I assert it boldly and proudly,—boldly, because I know it is true,—proudly, because it shows what medical science can do for the preservation of human life.

To me it is a matter of surprise that, after all the accumulated experience and long array of facts in favor of vaccination, which have been collected and presented to the public repeatedly during the last three-quarters of a century, there should be a single reasonable being who could even so much as doubt its efficacy. And yet there are those, surprising as it is, who characterize vaccination as “systematic poisoning in the name of science,” and have even gone so far as to associate themselves together under the name of “Anti-Vaccination League,” for the inhuman purpose of resisting this humane practice. I do not hesitate to say that very many of these 1,879 lives that have been so recently sacrificed in Philadelphia by this most preventable of all contagious diseases, have fallen as innocent victims, and some perhaps as self-made martyrs, to this unholy creed.

I rejoice that Philadelphia, unlike London, does not possess an anti-vaccination league, and that the medical profession here and throughout the State of Pennsylvania are so near a unit as regards their confidence in the prophylactic power of vaccination; for we find in the transactions of the Medical Society of the State of Pennsylvania, at its twenty-first annual session, held

at Philadelphia, June, 1870, that Dr. S. D. Gross, of Philadelphia, offered the following preamble and resolution, which was unanimously adopted.

“ WHEREAS, There are still many persons in every community who are disbelievers in the prophylactic powers of vaccination, and many also who oppose the operation on the ground of its positively injurious effects upon the system of the individual. Therefore,

“ *Resolved*, That the Medical Society of the State of Pennsylvania have unshaken confidence in its protective virtues, and that they strongly recommend the imperative importance of it as the only safe means of preventing the spread of small-pox to every inhabitant of the State.”

And, again, at its next session, held at Williamsport, June 1871, Dr. Benjamin Lee, of Philadelphia, on behalf of the Committee on Meteorology and Epidemics, presented the following resolutions :

“ *Resolved*, That it is the unanimous conviction of this Society :

“ First. That the comparative immunity which our country, and the civilized world generally, now enjoy from the decimating scourge of small-pox, is due entirely to the protective and modifying influence of vaccination.

“ Second. That the danger of transmitting other constitutional diseases through the medium of vaccination is so infinitesimally small that it does not deserve to be placed in the scale as opposed to the immense benefit which the operation confers.

“ Third. That a subjection of the entire population to its protective agency would result in the complete stamping out of this dread disease in its fatal and loathsome form.

“ Fourth. That the wide prevalence of the disease at the present time, in certain cities of Europe and America, traceable in a considerable degree to a neglect of the above-mentioned preventive measure, conveys a warning which it would be most unwise to disregard, and therefore,

“ *Resolved*, That a committee be appointed to memorialize the State Legislature at its next session upon the importance of

adopting and enforcing by legislative enactment a system of compulsory vaccination."

On motion of Dr. A. Nebinger, of Philadelphia, a committee was appointed to present the matter before the Legislature of Pennsylvania.

Such, then, is the sentiment of the medical profession in Philadelphia and throughout the State of Pennsylvania. I, therefore, indulge in the hope that through the combined effort of your Board and the Medical Society of the State of Pennsylvania, our State Legislature may be induced, before the present session shall have ended, to enact a law providing for every helpless, innocent, new-born babe of her Commonwealth, vaccination as its birth-right.

The following table will show, classified into nativities, the number of variolous patients admitted unvaccinated, and the number vaccinated in infancy, showing either good, fair, or poor cicatrices, together with the number of deaths, and the death-rate of each classification :

		Admitted.	Died.	Per cent. of Deaths.
United States.	Not vaccinated.....	302	198	65.56
	Vaccinated } in infancy } good cicatrix	172	13	7.55
	Vaccinated } in infancy } fair     "	86	16	18.6
	Vaccinated } in infancy } poor    "	169	42	24.85
Post-vaccinal cases...	427	71	16.62	
Germany.	Not-vaccinated .....	19	9	47.37
	Vaccinated } in infancy } good cicatrix	94	11	11.7
	Vaccinated } in infancy } fair     "	53	6	11.32
	Vaccinated } in infancy } poor    "	74	6	8.1
Post-vaccinal cases...	221	23	10.4	
Ireland.	Not vaccinated .....	55	37	67.27
	Vaccinated } in infancy } good cicatrix	45	6	13.33
	Vaccinated } in infancy } fair     "	15	3	20.
	Vaccinated } in infancy } poor    "	40	15	37.5
Post-vaccinal cases...	100	24	24.	
Other nativities.	Not vaccinated.....	9	6	66.66
	Vaccinated } in infancy } good cicatrix	20	3	15.
	Vaccinated } in infancy } fair     "	10	1	10.
	Vaccinated } in infancy } poor    "	17	4	23.53
Post-vaccinal cases...	47	8	17.	
Unknown nativ.	Not vaccinated.....	5	4	80.
	Vaccinated } in infancy } good cicatrix	1		
	Vaccinated } in infancy } fair     "	2	1	50.
	Vaccinated } in infancy } poor    "	1	1	100.
Post-vaccinal cases...	4	2	50.	

This I regard as the most interesting table in the report, for it contains all that the other tables contain with reference to vaccination, and in addition, enables us to make comparison between the vaccinations performed in the United States, Germany, and Ireland, these being the only nativities of any considerable number of patients received.

According to this table, then, we find that the United States gives us a death-rate among the unvaccinated of 65.56 per cent., Germany 47.37 per cent., Ireland 67.27 per cent., other nativities 66.66 per cent. In "other nativities" are included England, France, Canada, &c. Unknown nativities, 80 per cent. In "unknown nativities" are included all those who did not know where they were born, and those who were received moribund, or physically unable to give their birth-place. We learn from this comparison that variola is most fatal among the Irish, and least fatal among the Germans. There is, however, one thought which occurs to me, and I think it would be just as well to record it here. It is, that I have classified as unvaccinated all those who said they had been vaccinated in infancy, and yet could show no vaccine scar. It is possible then, and I think highly probable, that if I should separate all such, and give you only those who know they never were vaccinated, that we should find the death-rate among the unvaccinated Germans considerably higher. I name the Germans particularly, because, as a rule, they are all vaccinated. It is very rare to have a German tell you that he never was vaccinated.

The death-rates among those showing good cicatrices, compare as follows:—United States, 7.55 per cent.; Germany, 11.7 per cent.; Ireland, 13.33 per cent.; other nativities, 15 per cent. These figures give us the gratifying information that a good vaccine mark, secured by our mode of vaccinating, affords the best protection known.

The death-rates among those showing fair cicatrices, compare as follows:—United States, 18.6 per cent.; Germany, 11.32 per cent.; Ireland, 20 per cent.; other nativities, 10 per cent.; unknown nativities, 50 per cent. These figures show a very decided

difference in favor of the fair vaccine marks, the result of vaccination in Germany.

The death-rates among those showing poor cicatrices, compare as follows:—United States, 24.85 per cent.; Germany, 8.01 per cent.; Ireland, 37.5 per cent.; other nativities, 23.53 per cent.; unknown nativities, only one admitted, and that one died. These figures show a very great difference in favor of the poor vaccine marks of Germany; which, indeed, exhibit the strange anomaly of appearing to protect better than either her good or fair marks. Germany vaccinates well, as we shall see presently. She makes the largest number of insertions, and gives us the best and most characteristic scars; and yet, not unfrequently we find, on examining the arms of her subjects, from one to a dozen whitish spots, the result of vaccination, differing only from the surrounding skin by being a shade or two whiter, presenting neither an excavated nor honey-combed appearance. When such scars are the result of genuine vaccination—and they usually are with the Germans—I have found them to protect as well as those which I have characterized as typical.

Lastly, the death-rates among the post-vaccinal cases compare as follows:—United States, 16.62 per cent.; Germany, 10.4 per cent.; Ireland, 24 per cent.; other nativities, 17 per cent.; unknown nativities, 50 per cent. These figures show a very marked difference in favor of the vaccinations performed in Germany, Ireland giving the highest rate of mortality, while the United States stands midway between the two.

Why, then, this marked difference in favor of the vaccinations of Germany? The answer, it seems to me, must be found in one of the two reasons, viz.: either in the quality or source of the virus used, or else in the large number of insertions; for the Germans are peculiar for vaccinating in many places at the same time. I have counted on a single individual as many as seventeen good vaccine scars. These are the only differences that I am aware of between the mode of vaccinating in Germany and that of the other countries named.

Which then is it? I believe it is almost, if not wholly, due

to the quality and source of the virus which they use. Their mode of vaccinating is from arm to arm, with eighth-day lymph, which is much more reliable than the crust. To this fact I am able to bear testimony by my own personal experience, for when I was one of your vaccine physicians I embraced every opportunity to practice arm to arm vaccination, with the result of very rarely, if ever, failing to develop a genuine vaccine vesicle in one who was susceptible to vaccine. Indeed, I have succeeded in this way where I had repeatedly failed with the crust. The vesicle which is secured by this mode must always be genuine, never spurious, provided that nothing but lymph be used from a vesicle that has not passed beyond its eighth day of development. These facts are abundantly supported by the table which we last studied, for we learned there that the Germans—no matter whether they presented good, fair, or poor cicatrices—were all equally well protected, showing, as I believe, that they had all been vaccinated with the specific virus that has produced nothing but genuine results.

The other reason which I have named (the large number of insertions) has, I am inclined to think, nothing to do with the increased protection which the Germans enjoy. I have the data at my command to determine this point, but have not the time at present to glean it from the Record Book. But if this is the source of their better protection, why then should those vaccinated in the United States, and showing good cicatrices, give a mortality rate of only 7.55 per cent.; while those vaccinated in Germany and showing good cicatrices, give a mortality rate increased to 11.7 per cent.? This being the fact it is evident that the difference cannot be due to the large number of insertions; for as we all know in the United States very rarely more than three insertions are made, while the Germans seldom make less than six.

We will next search the record of admissions and see what it will show us, with reference to revaccination. By carefully searching the record over, I am unable to find out of the 1,227 variolous cases more than 14, which have been, as they believe, successfully revaccinated. I have, of course, excluded all those in which the operation had been performed less than seven days

prior to the appearance of the eruption, for the reason already given.

We will now note those cases separately and judge of their merits afterwards. We note them in the order as they appear on the Record Book.

1,072 was vaccinated in infancy; shows a poor mark; says she was revaccinated 31 years ago; mark doubtful; varioloid; recovered; 23 days in the hospital.

1,241 was vaccinated in infancy; shows a poor mark; says she was revaccinated 6 or 8 years ago; fair mark; eruption very light; mostly papular; slightly vesicular; was not confined to bed; 7 days in hospital.

1,346 was vaccinated in infancy; good mark; revaccinated 8 days before the appearance of the eruption; presents a partially developed vaccine vesicle; varioloid; recovered; 18 days in hospital.

1,357 was vaccinated in infancy; poor mark; revaccinated 24 years ago; poor mark; varioloid, mild; recovered; 8 days in hospital.

1,425 was vaccinated in infancy; fair mark; revaccinated 9 years ago; says it took; no mark to show for it; confluent variola; recovered; 77 days in hospital.

1,430 was vaccinated in infancy; poor mark; revaccinated 13 years ago; no mark to show for it; varioloid, mild; recovered; 7 days in hospital.

1,464 was vaccinated in infancy; poor mark; revaccinated 4 weeks prior to admission; says it took slightly; varioloid; recovered; 14 days in hospital.

1,514 was vaccinated in infancy; poor mark; revaccinated 11 years ago; probably successfully; varioloid; recovered; 19 days in hospital.

1,572 was vaccinated in infancy; fair mark; revaccinated 8 years ago; fair mark; variola; recovered; 28 days in hospital.

1,750 says he was vaccinated in infancy; no visible mark; revaccinated 11 days prior to appearance of eruption; apparently successfully; variola; died.

1,937 was vaccinated in infancy; good mark; revaccinated 10

years ago; good mark; varioloid, mild; recovered; 6 days in hospital.

1,988 was vaccinated in infancy; good mark; revaccinated since puberty; poor mark; varioloid, mild, only about half dozen vesicles; recovered; 19 days in hospital.

2,083 was vaccinated in infancy; poor mark; revaccinated 8 days prior to the appearance of the eruption; taking well; varioloid, mild; eruption aborted in the papular stage; recovered; 10 days in hospital.

2,156 was vaccinated in infancy; fair mark; revaccinated 3 months prior to admission; says it took; mark doubtful; variola; 19 days in hospital.

After studying these cases carefully with the desire to give them the fairest possible construction, I am unable to refer to more than six of them (Nos. 1,241, 1,357, 1,514, 1,572, 1,937, and 1,988) as being anything like authenticated instances of the variolous disease, following successful revaccinations. And you will mark that, in every instance the revaccination had been performed a number of years ago.

Cases Nos. 1,425 and 1,430, think they had been successfully revaccinated, but as they are unable to show any scars as the result of it, they certainly cannot be classified as authenticated cases.

Cases No. 1,346, 1,750, and 2,083, had all been revaccinated after exposure, so that the most that could have been expected from the operation in their cases, would have been a modifying influence over the disease, which was very markedly the case with No. 2,083, for we have seen that the eruption in this case, did not progress farther than the papular stage.

Case No. 1,750, the one that died, was apparently successfully revaccinated, but I cannot help entertaining a doubt of the genuineness of the vaccine disease.

There is one fact worthy of note, elicited from these cases, and that is, of the fourteen cases, only five of them, claim to have been recently revaccinated, and only two of the five before exposure.

Supposing that these two had been successfully revaccinated, which I doubt, I then submit, inasmuch as many thousand revaccinations have been recently performed in the city, and as barely two of them have appeared among 1,227 variolous subjects, that this is proof positive of the merits of re-vaccination.

We will next see what the record shows, with reference to the number of persons in whom small-pox has occurred the second time. We will also cite their individual cases, in the order in which they appear on the record book.

1,226 Came to the hospital as nurse; not vaccinated; says she had small-pox at six years of age; some pitting to show for it; Taken sick on the ninth day, and eruption appeared on the twelfth day from the date of exposure; very light; only slightly vesicular. Was sick only during the initial fever; varioloid, mild; recovered.

1,297 Came to the hospital as nurse; was vaccinated in infancy, poor scar; says he had varioloid when a child; very little pitting to show for it. Was taken sick on the ninth day from date of exposure, rash appearing on the twelfth day, very mild, only slightly vesicular; was sick only during the initial fever; varioloid, mild; recovered.

1,364 Patient vaccinated in infancy; poor mark; says she had varioloid in childhood; some doubtful scars to show for it; varioloid, mild; recovered.

1,468 Patient not vaccinated; says he had small-pox in childhood, no pitting to show for it; variola; recovered.

1,530 Patient vaccinated in infancy; poor mark; says he had varioloid at ten years of age; some doubtful scars to show for it; varioloid, mild; recovered.

1,619 Patient not vaccinated; says he had small-pox when a child; no pitting to show for it; variola; recovered.

1,693 Came to the hospital as nurse (the record fails to show whether vaccinated or not; I am inclined to think he had been); says he had varioloid at 19 years of age; has two or three doubtful scars to show for it. Was taken sick on the fifteenth day from date of exposure; rash appeared two days subsequently, consisting of only a few papules; varioloid, mild; recovered.

1,713 Came to hospital as nurse; not vaccinated; says she had small-pox when two years old; pitting very marked. Was taken sick on the ninth day, and the eruption appeared on the twelfth day from date of exposure; has quite a number of vesicles on her body; they did not advance beyond the vesicular stages; was sick only during initial fever.

1,752 Patient born in England, says she was inoculated at 3 or 4 years of age; never was vaccinated; the record fails to show whether there was any scar at the place of insertion of the virus; there was, however, no pitting; varioloid, mild, consisting of only two or three small vesicles; recovered.

1,718 Patient vaccinated in infancy; poor mark; says he had varioloid at 15 years of age; no pitting to show for it; variola; was of intemperate habits; died on the fourth day of the rash.

1,077 Patient, colored, not vaccinated, says she had small-pox at 15 years of age; no pitting to show for it; was very full of a papular eruption; did not become vesicular; varioloid, mild; recovered.

1,080 Patient, not vaccinated, says she had small-pox when a child; some pitting to show for it; admitted along with her husband and entire family; presents only 3 or 4 vesicles; varioloid mild; recovered.

1,868 Patient vaccinated in infancy; good mark; says he had varioloid in childhood; no pitting to show for it; varioloid; recovered.

2,150 Patient, not vaccinated, says she had small-pox at 10 years of age; some doubtful scars to show for it; variola; died on the eleventh day of the rash.

We learn from these notes that 14 of our patients claim to have had either small-pox or varioloid at a prior period of life. The statement of most of them is, no doubt, reliable, while some probably are mistaken. As to how many may be regarded as authentic instances of small-pox occurring the second time, I will leave for others to judge. It is to be remembered, however, that it is no unusual circumstance to discharge patients from the hospital, who have recovered from varioloid, without

being pitted; while it is exceedingly rare to find no pitting after a genuine attack of small-pox.

There is one point of interest connected with the history of those who came to the hospital as nurses and contracted the disease. It is that in the majority of them (3 out of 4), the period of incubation was 9 days.

The fact, then, that small-pox may, and often does, under epidemic influence, occur a second time, justifies the advice that all those who have previously had the disease, should, in times of an epidemic, be subjected to the test of vaccination.

I may be pardoned for intruding here a case in point which occurred in my private practice. In the early part of the present epidemic I suggested to a patient of mine, a lawyer of this city, who had small-pox in childhood and is very deeply pitted, the propriety of being vaccinated. Although a little surprised at my suggestion, he consented to the operation. I vaccinated him, and one week subsequently he returned to my office, somewhat to my surprise, with two perfect vaccine vesicles. I asked him to save me the crusts when they fell off, which he did, and I gave them to Dr. Leaman, one of your vaccine physicians, with the request that he would test them on the arm of an infant and report to me the result. His report is that these crusts have been the means of developing on the arm of an infant a genuine vaccine vesicle.

I argue, therefore, that the result in this case justifies the operation under all similar circumstances; and inasmuch as this person was susceptible to vaccine, so I believe he would have contracted variola had he been exposed before vaccination.

We will next consult the record with the view to ascertain the number of our variolous patients that were admitted in a state of pregnancy, and learn what the results have been. We will briefly cite their individual cases as follows:

1,070 Admitted with confluent variola, in the fourth month of pregnancy; recovered; 44 days in hospital; foetus saved and evincing signs of life.

1,109 Admitted with variola, in the third month of preg-

nancy; aborted on the fourth day of the rash; died the following day.

1,134 Admitted with varioloid in the third month of pregnancy; aborted on the eighteenth day of the rash; recovered.

1,183 Admitted with variola in the second month of pregnancy; recovered without aborting; 18 days in hospital.

1,300 Admitted with varioloid in the fifth month of pregnancy; abortion threatened, but the symptoms were subdued by the use of sulphate of morphia; recovered; only 4 days in hospital; eloped.

1,353 Admitted with confluent variola; had given birth to a seven months child on the first day of the initial fever; child lived for a short time only; our patient died on the third day of the rash.

1,408 Admitted with variola; 5½ months advanced in pregnancy; recovered without aborting; 31 days in hospital.

1,486 Admitted with varioloid in the third month of pregnancy; recovered without aborting; 21 days in hospital.

1,551 Admitted with variola; 7½ months advanced in pregnancy; aborted on first day of eruption; died 5 days subsequently.

1,625 Admitted with varioloid in the third month of pregnancy; recovered without aborting; 14 days in hospital.

1,633 Admitted with variola in the third month of pregnancy; died without aborting on the ninth day of the eruption.

1,687 Admitted with varioloid in the second month of pregnancy; recovered; 14 days in hospital. But, as I learn from her physician, she aborted 10 days after she had been discharged, and that she recovered.

1,691 Admitted with varioloid; 5½ months advanced in pregnancy; aborted on the 26th day of the rash (this foetus showed some slight scars, the only one I have seen that did); recovered; 41 days in hospital.

1,904 Admitted with varioloid; three months pregnant; recovered without aborting; 27 days in hospital.

2,089 Admitted with varioloid in the fifth month of preg-

nancy; died without aborting on the fifth day of the eruption; post-mortem; no eruption on foetus.

2,168 Admitted with variola;  $5\frac{1}{2}$  months advanced in pregnancy; aborted on the second day of the eruption; lochia suppressed; died the following day.

We learn from these notes, then, that we have admitted sixteen pregnant women suffering with small-pox. Of whom ten recovered and six died. Seven aborted, seven recovered without aborting, and two died without aborting. Of the seven that aborted three recovered and four died. All those that aborted in the early stage of variola died; while all those that aborted later in the disease, during desquamation, recovered.

We may, therefore, safely conclude that when small-pox is complicated with pregnancy, the danger from the disease is increased; that abortion is liable to occur; and that, when it occurs in the early stage of the disease, peril to life is imminent.

According to my observation, hemorrhage is exceedingly likely to follow abortion under these circumstances, not, however, profuse, but rather a continual draining of blood, which it is next to impossible to control. This soon exhausts the patient, and prevents the eruption from developing. The skin, although sometimes pale, is usually congested and of a livid hue. The eruption remains flat, and in some instances the face and hands are perfectly smooth, showing no indication of the rash. In these cases the only symptoms of small-pox is to be found on the trunk, more especially about the groins, where you will find a flat, suppressed eruption of a livid or purplish hue. Indeed, even here you will sometimes find only purplish spots, so that the true nature of the disease might be either overlooked or mistaken for so-called spotted fever or purpura haemorrhagica.

I will cite here two cases of parturient females, with small-pox, that were delivered at term one in the hospital, the other only a few hours prior to admission.

1,834 Admitted with varioloid within 2 weeks of expected confinement; she had varioloid mild, and when she had quite recovered gave birth to a child showing no eruption or scars.

The babe was at once vaccinated, the operation being repeated every day for five days in succession. At or near the place where the last insertion was made, there developed a small vesicle of doubtful character. It may have been either an imperfect vaccine vesicle, or a single variolous vesicle, which of the two I was unable to decide. I am inclined to think, however, that it was a single variolous vesicle. It ran a short course, reached its height from the sixth to the eighth day, and drying up left a crust only as large as a pin's head. The child was not sick, nursed well, and left the hospital with its mother, after a residence there of three weeks, in the enjoyment of perfect health.

2,151 Admitted with varioloid, bringing with her an infant 12 hours old. The babe was at once vaccinated. Two insertions were made on one arm ; the following day two more were made on the other arm. The last two both developed perfect vaccine vesicles. The child was discharged from the hospital along with its mother, after a residence there of four weeks, unaffected with small-pox. And the crusts from this child's arm successfully vaccinated another child that was admitted under similar circumstances, and protected it likewise from variola. This last case was admitted in 1872, and its history, therefore, is not included in this report.

I have one more table that I desire to present. It is one to show the day of the rash on which my variolous patients have died, to wit :

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	22	27	30
1	4	6	12	24	34	25	22	41	41	38	25	16	12	13	4	3	2	2	2	1	1	2

The first row of figures shows the day of the rash ; the second row, the number of deaths.

From this table we learn that variola is most fatal on the ninth, tenth, and eleventh days of the eruption. Those who died within the first three or four days were either young chil-

dren who died in convulsions, or malignant cases of variola ; while those who have died as late as twenty or thirty days of the eruption, have died from some intercurrent disease, such as congestion of the lungs, pneumonia, or pleuro-pneumonia.

Only a few remarks on treatment, and I have finished.

Fully impressed with the fact that there is no specific remedy for small-pox, I have, therefore, in its treatment endeavored to be guided by common sense and general principles.

In the mild variety of small-pox, treatment is not required, for with anything like ordinary care all such cases will recover.

While at the other extreme of the disease, its malignant variety, treatment is of no avail ; they will all die in spite of any and every form of treatment. The proper subjects for treatment, then, are those that present themselves between these two extremes, such as well marked discrete, semi-confluent and confluent variola.

We, at the hospital, rarely see our patients before the initial fever has either passed or well nigh passed. When, however, an opportunity occurs for treatment during the first stage of the disease, we give febrifuge mixtures and cooling drinks ; such as liquor potassæ citratis, or liquor ammoniæ acetatis, combining, with either of these, spiritus aetheris nitrosi, and a little simple syrup. As cooling drinks, ice water and lemonade are freely administered. A febrifuge mixture which I am somewhat partial to, when there is wakefulness and delirium along with the fever, is spiritus ammoniæ acetatis, spiritus aetheris nitrosi, morphiæ acetas, and a little simple syrup, with the addition, sometimes, of a dovers powder at bedtime. If this will not succeed in quieting my patient, I give bromide of potassium or hydrate of chloral. If vomiting is troublesome, I give subnitrate of bismuth, lime water, or lime water and milk.

As soon as the primary fever is passed, and the patient is restored to quiet, I abandon all the febrifuge mixtures. And now, if I perceive that my patient will have either well marked discrete, semi-confluent, or confluent variola, I institute a supporting plan of treatment in anticipation of the extensive and exhausting sup-

puration that will take place from the whole cutaneous surface, which I believe constitutes one of the chief dangers from the disease, and demands for its counteraction the most liberal use of stimulants and nutrients. I, therefore, order quinine, iron, beef tea, milk, milk-punch, and egg-nog. As the vesicular stage advances I direct that each patient shall have from six to eight grains of quinine, about one fluid drachm of muriated tincture of iron, one quart of milk made into egg-nog, containing six or eight eggs, six or eight ounces of whisky, which is often increased to eight or twelve ounces, and one quart of beef tea. All this must be taken every twenty-four hours.

If the sore-throat is troublesome, and it generally is, we use gargles of chlorate of potash, sage tea, and flax-seed tea. Lemonade is freely used and found very acceptable to the patient.

During the secondary febrile stage I do not return to the febrifuge mixtures, but continue, in the language of Dr. Nebinger, the same "compensative nutritive treatment."

As crustation takes place, and sometimes even before, if there is much burning and itching of the skin, we use olive oil or linseed oil, in combination with lime water and carbolic acid. This we apply freely to the surface with a large camel's hair brush. The troublesome and vexatious boils and abscesses that follow are treated by flax-seed poultices, and by the use of the lancet when suppuration has taken place.

Respectfully submitted.

W. M. WELCH,  
*Physician-in-Charge.*



# HEALTH OFFICER'S ANNUAL REPORT OF Births, Marriages, and Deaths, 1871.

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**Registration Department, Health Office,**  
PHILADELPHIA, January, 1872.

To the President and Members  
of the Board of Health.

GENTLEMEN:—According to the provisions of the Act of Assembly, approved March 8, 1860, the following report of Births, Marriages, and Deaths is respectfully presented through you to City Councils, for the year ending December 31, 1871.

The number of births registered amounted to eighteen thousand three hundred and forty-six (18,346), an increase over the previous year of one thousand one hundred and fifty-two (1,152), or 6.70 per cent.; the number of marriages, six thousand eight hundred and six (6,806), an increase over the previous year of three hundred and eighty-five (385), or 5.99 per cent.; the number of deaths, sixteen thousand nine hundred and ninety-three (16,993), an increase over the previous year of two hundred and forty-three (243), or 1.45 per cent.

The general sanitary condition of the city during the first nine months of the year was very good, the mortality being eleven thousand six hundred and sixty-six (11,666), a decrease from the

previous year of one thousand eight hundred and eighty-two (1,882); during the last quarter of the year the small-pox, which had been locating itself in various sections of our city, assumed the form of an epidemic, and continued, with considerable severity, the balance of the year, causing our bills of mortality to considerably increase, overcoming the gain in the early part of the year, and increasing the mortality for the year two hundred and forty-three, and at the close of the year the disease was continuing with great violence.

By reference to table XVI. it will be observed that this epidemic has been more severe than any previous one in our city, the deaths being 2.78 to every one thousand persons living. It will also be observed that the disease has visited our city in an epidemic form about once in every ten years. Our fiscal year ending December 31, in the height of the disease, it is almost impossible to present a correct statement of the epidemic, but will endeavor, in our next annual report, to give a correct history of the disease from the beginning. During the prevalence of the disease our death rate was 1 in 4.3, but we have reason to believe that the ratio through the entire epidemic would be more favorable.

## BIRTHS.

The number of births registered during the year was eighteen thousand three hundred and forty-six (18,346), an increase over the previous year of one thousand one hundred and fifty-two (1,152), or 6.70 per cent.

The number of male births was nine thousand six hundred and fifty-seven, (9,657), an increase over the previous year of five hundred and twenty-three (523), or 5.72 per cent.; the female births during the year amounted to eight thousand six hundred and eighty-nine (8,689), an increase over the previous year of six hundred and twenty-nine (629).

The following table will show the number of births in each month, the number of colored births, still-births, twins, and triplets:—

TABLE I.—BIRTHS.

1871. MONTHS.	Total.	BIRTHS.		BLACK.		STILL-BORN.		Twins.	Triplets.
		M.	F.	M.	F.	M.	F.		
January .....	1,596	817	779	3	7	40	30	17	1
February .....	1,476	792	684	8	5	33	27	10	
March .....	1,395	721	674	9	10	53	32	11	1
April .....	1,320	680	640	4	11	28	21	9	1
May .....	1,284	679	605	9	2	44	31	8	
June .....	1,423	759	664	10	8	40	29	13	
July .....	1,648	851	797	15	15	48	37	21	
August .....	1,734	897	837	22	9	39	33	16	
September .....	1,635	893	742	11	11	41	28	11	1
October .....	1,682	894	788	14	12	49	32	9	1
November .....	1,526	809	717	16	11	47	32	8	
December .....	1,627	865	762	16	11	40	41	7	
Totals.....	18,346	9,657	8,689	137	112	502	373	140	5

*Twin-births.*—The number of twin-births amounted to one hundred and forty (140).

*Triplets.*—During the year five sets of triplets were reported—one set in January, one in March, one in April, one in September, and one in October.

*Colored births.*—The number of colored births registered during the year amounted to two hundred and forty-nine (249), an increase over the previous year of one hundred and thirty-eight (138).

*Still-births.*—We have registered eight hundred and seventy-five (875) still-births; five hundred and two (502) were males, and three hundred and seventy-three (373) were females.

The number of births in each quarter of the year were as follows:

First quarter, ending March 31 .....	4,467	=24.35 per cent.
Second " " June 30.....	4,027	=21.95 "
Third " " September 30.....	5,017	=27.34 "
Fourth " " December 31.....	4,835	=26.36 "
Total.....	18,346	=100 "

The following table presents the births in each Ward during the year 1871:

TABLE II.

BIRTHS IN EACH WARD, 1871.					
First .....	718	Eleventh .....	520	Twenty-first.....	600
Second.....	592	Twelfth.....	399	Twenty-second.....	726
Third.....	525	Thirteenth.....	520	Twenty-third.....	510
Fourth.....	512	Fourteenth.....	590	Twenty-fourth.....	851
Fifth.....	310	Fifteenth.....	1,250	Twenty-fifth.....	444
Sixth.....	325	Sixteenth.....	551	Twenty-sixth.....	982
Seventh.....	744	Seventeenth.....	702	Twenty-seventh.....	629
Eighth.....	368	Eighteenth.....	557	Twenty-eighth.....	314
Ninth.....	392	Nineteenth.....	1,452	Twenty-ninth.....	565
Tenth.....	500	Twentieth.....	1,181	Unknown.....	17
Total.....					18,346

It will be observed from the foregoing table, that the highest number of births occurred in the Nineteenth Ward—one thousand four hundred and fifty-two (1,452); the lowest number in the Fifth Ward—three hundred and ten (310).

The average births per month during the year was 1,528  
 " " " week " " " " 353  
 " " " day " " " " 50

### MARRIAGES.

The number of marriages registered during the year 1871 amounted to six thousand eight hundred and six (6,806), an increase over the previous year of three hundred and eighty-five (385).

The number and per centage of marriages in each quarter of the year were as follows:

First quarter, ending March 31.....	1,481	=21.76	per cent.
Second " " June 30.....	1,751	=25.72	"
Third " " September 30.....	1,529	=22.47	"
Fourth, " " December 31.....	2,045	=30.05	"
		6,806	= 100. "

The following table gives the birth-place of those married:—

TABLE III.—MARRIAGES. *Nativities of the Parties.*

BIRTH-PLACE OF GROOMS.	BIRTH-PLACE OF BRIDES.			Total of grooms.	Percent'ge of grooms.
	U. States.	Foreign.	Not given.		
United States.....	3,587	317	17	3,921	60.67
Foreign .....	750	1,704	14	2,468	39.33
Not given.....	31	4	382	417	
Total of the brides.....	4,368	2,025	413	6,806	
Percentage of brides.....	67.21	32.79	.....	.....	100. =

It will be observed, three thousand nine hundred and twenty-one (3,921), or 60.67 per cent., of men married were natives of the United States, of whom three thousand five hundred and eighty-seven (3,587) married women of the United States, three hundred and seventeen (317) married foreign women, and seventeen (17) married women whose nativities were unknown.

The number of men married, of foreign birth, amounted to two thousand four hundred and sixty eight (2,468), or 39.33 per cent., of whom seven hundred and fifty (750) married women

of the United States, one thousand seven hundred and four (1,704) married foreign women, and fourteen (14) married women whose nativities were unknown.

The number of men married whose nativities were unknown amounted to four hundred and seventeen (417), of whom thirty-one (31) married women of the United States, four (4) married foreign women, and three hundred and eighty-two (382) married women whose nativities were unknown.

The number of women married who were natives of the United States was four thousand three hundred and sixty-eight (4,368), or 67.21 per cent., of whom three thousand five hundred and eighty-seven (3,587) married men of the United States, seven hundred and fifty (750) married foreign men, and thirty-one (31) married men whose nativities were unknown.

Two thousand and twenty-five (2,025), or 32.79 per cent., women of foreign birth were married, of whom three hundred and seventeen (317) married men of the United States, and one thousand seven hundred and four (1,704) married foreign men, and four (4) married men whose nativities were unknown.

The number of women married whose nativities were unknown amounted to four hundred and thirteen (413), of whom seventeen (17) married men of the United States, fourteen (14) married foreign men, and three hundred and eighty-two (382) married men whose nativities were unknown.

Of the whole number of persons married (of both parties), natives of the United States amounted to eight thousand two hundred and eighty-nine (8,289), while those of foreign birth amounted to four thousand four hundred and ninety-three (4,493).

The number of marriages in which both parties were natives of the United States was three thousand five hundred and eighty-seven (3,587), and the number of marriages in which both parties were of foreign birth was one thousand seven hundred and four (1,704), and the number of marriages in which the nativities of both parties were unknown amounted to three hundred and eighty-two (382).

The following table will show the ages of the parties married during the year, and their percentages:—

TABLE IV.—MARRIAGES. *Age of the Parties.*

AGES OF THE MEN.	1871.	AGES OF THE WOMEN.								Total of men.	Percentage of men.
		Under 20.	20 to 25.	25 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	Not given.		
Under 20 .....	25	7	.....	.....	.....	.....	.....	.....	.....	32	.47
20 to 25.....	855	1,347	150	23	1	.....	.....	7	2,383	35.01	
25 to 30.....	260	1,165	538	115	8	.....	.....	7	2,093	30.75	
30 to 40.....	85	386	353	289	25	1	.....	3	1,142	16.57	
40 to 50.....	3	46	60	169	77	6	.....	2	263	5.33	
50 to 60.....	.....	7	11	44	43	24	2	.....	131	1.92	
60 to 70.....	.....	.....	4	6	8	8	3	.....	29	.42	
70 to 80 .....	.....	.....	1	1	2	2	.....	.....	6	.08	
80 to 90.....	.....	.....	.....	.....	.....	1	.....	.....	1	.01	
Not given.....	2	3	1	.....	.....	.....	.....	620	626	.....	
Total of the women,	1,230	2,961	1,118	647	184	41	6	639	6,806	.....	
Percentage of the women.....	18.30	43.50	16.42	9.50	2.40	.60	.08	.....	.....	.....	

The number of men married under twenty was thirty-two (32), or .47 per cent., of whom twenty-five (25) married women under twenty, and seven (7) married women between twenty and twenty-five.

The number of men married between the ages of twenty and twenty-five amounted to two thousand three hundred and eighty-three (2,383), or 35.01 per cent., of whom eight hundred and fifty-five (855) married women under twenty, one thousand three hundred and forty-seven (1,347) married women between twenty and twenty-five, one hundred and fifty (150) married women between twenty-five and thirty, twenty-three (23) married women

between thirty and forty, one (1) married a woman between forty and fifty, and seven (7) married women whose age was not given.

The number of men married between twenty-five and thirty was two thousand and ninety-three (2,093), or 30.75 per cent., of whom two hundred and sixty (260) married women under twenty, one thousand one hundred and sixty-five (1,165) married women between twenty and twenty-five, five hundred and thirty-eight (538) married women between twenty-five and thirty, one hundred and fifteen (115) married women between thirty and forty, eight (8) married women between forty and fifty, and seven (7) married women whose age was not given.

The number of men married between thirty and forty amounted to one thousand one hundred and forty-two (1,142), or 16.77 per cent., of whom eighty-five (85) married women under twenty, three hundred and eighty-six (386) married women between twenty and twenty-five, three hundred and fifty-three (353) married women between twenty-five and thirty, two hundred and eighty-nine (289) married women between thirty and forty, twenty-five (25) married women between forty and fifty, one (1) married a woman between fifty and sixty, and three (3) married women whose age was not given.

The number of men married over the age of forty amounted to six hundred and thirty (630), or 9.25 per cent.

The number of women married under twenty amounted to one thousand two hundred and thirty (1,230), or 18.30 per cent., of whom twenty-five (25) married men under twenty, eight hundred and fifty-five (855) married men between twenty and twenty-five, two hundred and sixty (260) married men between twenty-five and thirty, eighty-five (85) married men between thirty and forty, three (3) married men between forty and fifty, and two (2) married men whose age was not given.

The number of women married between twenty and twenty-five was two thousand nine hundred and sixty-one (2,961), or 43.50 per cent., of whom seven (7) married men under twenty,

one thousand three hundred and forty-seven (1,347) married men between twenty and twenty-five, one thousand one hundred and sixty-five (1,165) married men between twenty-five and thirty, three hundred and eighty-six (386) married men between thirty and forty, forty-six (46) married men between forty and fifty, seven (7) married men between fifty and sixty, and three (3) married men whose age was not given.

The number of women married between twenty-five and thirty amounted to one thousand one hundred and eighteen (1,118), or 16.42 per cent., of whom one hundred and fifty (150) married men between twenty and twenty-five, five hundred and thirty-eight (538) married men between twenty-five and thirty, three hundred and fifty-three (353) married men between thirty and forty, sixty (60) married men between forty and fifty, eleven (11) married men between fifty and sixty, four (4) married men between sixty and seventy, one (1) married a man between seventy and eighty, and one (1) married a man whose age was not given.

The number of women married between thirty and forty was six hundred and forty-seven (647), or 9.50 per cent., of whom twenty-three (23) married men between twenty and twenty-five, one hundred and fifteen (115) married men between twenty-five and thirty, two hundred and eighty-nine (289) married men between thirty and forty, one hundred and sixty-nine (169) married men between forty and fifty, forty-four (44) married men between fifty and sixty, six (6) married men between sixty and seventy, and one (1) married a man between seventy and eighty.

The number of women married over the age of forty was two hundred and eleven (211), or 3.10 per cent.

There were six (6) women married between sixty and seventy, of whom two married men between fifty and sixty, three (3) married men between sixty and seventy, and one (1) married a man between eighty and ninety.

The ages of six hundred and twenty-six (626) men and six hundred and thirty-nine (639) women have been omitted.

The following table will give the number of marriages solemnized during the year, with the various ceremonies employed:—

TABLE V.—MARRIAGES. *Ceremonies employed.*

MONTHS. 1871.	Total.	Methodist.	Catholic.	Presbyterian.	Episcopal.	Lutheran.	Baptist.	Aldermen.	German Reformed.	Hobey.	Mayor.	Moravian.	Evangelical Association.	Dutch Reformed	Friends.	Church of God.	Universalist.	Unitarian.	Congregational.	Independent German.	Bible Christian.	Church of Christ.	New Jerusalem
January .....	537	103	121	59	65	51	50	34	26	5	5	...	1	5	2	3	2	3	1	1	...	...	
February.....	533	113	142	59	43	38	50	29	23	3	11	1	2	4	5	1	1	2	...	4	1	1	...
March.....	411	95	7	63	54	44	51	40	21	13	16	...	...	...	1	2	1	1	1	...	1	...	1
April.....	595	136	139	75	58	66	51	26	21	3	8	4	2	3	1	...	...	1	...	1	...	...	...
May.....	563	130	119	77	61	48	44	30	24	6	7	5	2	3	2	3	...	...	1	...	...	...	1
June.....	593	132	111	77	85	44	55	28	40	8	4	1	2	1	...	1	...	...	3	...	3	...	1
July.....	478	128	85	55	48	46	38	24	34	5	1	1	3	1	2	3	1	...	1	...	2	...	...
August.....	463	133	77	59	49	36	44	27	20	10	...	2	2	1	...	1	...	2	...	...	...	...	...
September.....	588	142	127	79	59	60	48	32	21	6	...	3	5	2	...	...	2	1	1	...	...	...	...
October .....	707	152	152	88	76	66	57	46	35	12	11	3	3	...	1	2	1	1	...	...	...	...	1
November.....	657	137	145	79	69	63	60	26	47	3	6	6	1	2	4	1	3	1	1	3	...	...	...
December.....	681	187	102	80	89	70	60	34	25	2	6	9	5	4	2	2	1	1	...	2	...	...	3
Total.....	6806	1588	1327	850	756	632	608	376	337	76	75	35	28	26	20	17	14	10	9	8	8	3	3

The largest number of marriages occurred in the month of October, seven hundred and seven (707), while the month of March only amounted to four hundred and eleven (411).

The average marriages per month, - - - 567

" " week, - - - 131

" " day, - - - 16

## MORTALITY.

The number of interments in the City during the year amounted to sixteen thousand nine hundred and ninety-three (16,933), an increase over the previous year of two hundred and forty-three (243), or 1.45 per cent.

Total number of interments during the year 1871.....	16,993
White.....	16,036
Colored.....	957
	—
Total.....	16,993
Males.....	8,942
Females .....	8,051
	—
Total.....	16,993
Male adults ..	4,317
Female “ ..	3,934
	—
Male children.....	8,251
Female “ ..	4,625
	—
Female “ ..	4,117
	—
Total.....	8,742
	—
Total.....	16,993
	—
Deaths from registered diseases.....	14,814
“ “ Still-born.....	875
“ “ Old age.....	554
“ “ Unknown, external, and accidental causes....	750
	—
Total.....	16,993
From the above estimate we find the total interments in our City were sixteen thousand nine hundred and ninety-three (16,993), from which deduct still-born and those brought from the country for burial within the City limits, and the following statement will show the actual mortality in our City for the year 1871:	
Total interments during the year.....	16,993
Deduct still-born.....	875
“ from country .....	633—1,508
	—
Net deaths in the City.....	15,485

TABLE VI.—*Total interments in the City of Philadelphia during the year 1871.*



TABLE VI—Continued.

WARDS.

TABLE VI—Continued.

PAGE 100—Continued.

TABLE VI—Continued.

PAGE 102—Continued.

TABLE VI—Continued.

		AGES.																
DISEASES.		1	2	5	10	15	20	30	40	50	60	70	80	90	100	120		
Year	Month	Under 1	1	2	5	10	15	20	30	40	50	60	70	80	90	100	110	130
Fever, Nervous.....	5	5	28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
" Puerperal.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
" Progenic.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
" Pleuritic.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
" Relapsing.....	7	6	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
" Remittent.....	28	13	15	7	9	1	3	5	2	4	1	3	8	2	3	1	1	1
" Scarlet.....	262	132	130	128	126	15	43	122	60	12	2	4	2	1	1	1	1	1
" Spotted.....	5	4	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
" Typhoid.....	313	168	145	49	55	2	3	18	24	25	22	27	19	14	7	2	1	1
" Typhus.....	37	21	16	5	5	5	5	2	4	1	3	3	3	3	2	1	1	1
Fracture of the Arm.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
" Leg.....	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
" Pelvis.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
" Ribs.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
" Skull.....	6	5	1	4	4	4	4	2	1	1	1	1	1	1	1	1	1	1
" Spine.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
" Thigh.....	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Fatty degeneration of Heart.....	12	5	7	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
" Kidneys.....	3	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
" Liver.....	5	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Fistula.....	4	4	16	22	1	3	2	1	1	1	1	1	1	1	1	1	1	1
Gangrene.....	38	16	22	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gout.....	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Hanging.....	13	7	6	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Heart Clot.....	17	7	10	4	1	3	1	1	1	1	1	1	1	1	1	1	1	1
Hernia.....	51	23	28	10	13	9	5	8	6	6	10	7	1	3	1	1	1	1
Hemorrhage from lungs.....	49	32	17	1	2	1	1	1	1	1	11	15	8	7	3	2	2	2
" Mouth.....	49	32	17	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1
" S. & Bowels.....	17	12	6	3	1	3	1	1	1	1	1	1	1	1	1	1	1	1
Hooping Cough.....	10	10	52	52	35	25	19	2	1	1	1	1	1	1	1	1	1	1
Hydrocephilia.....	81	29	52	29	1	1	1	1	1	1	1	1	1	1	1	1	1	1

## DISEASES.

Alms-houses.....  
Adults.....  
Minors.....  
Country.....  
People of Color.....  
Aths-houses.....  
Country.



TABLE VI—Continued.



TABLE VI—Continued.



TABLE VI—Continued.

DISEASES.	AGES.												Country.		
	1	2	5	10	15	20	30	40	50	60	70	80			
Year.	1	2	5	10	15	20	30	40	50	60	70	80	90	100	120
Total.	16,993	842	8051	4625	4117	4615	1245	1277	651	376	579	1917	1623	1257	1065
Males.	8,942	436	4255	2350	2117	2085	650	625	325	125	125	125	125	125	125
Females.	8,051	407	3765	2275	2000	1985	625	600	300	100	100	100	100	100	100
Alms-houses.	633	35	32	25	22	20	10	10	10	10	10	10	10	10	10
People of Color.	957	35	32	25	22	20	10	10	10	10	10	10	10	10	10
Adults.	15,493	8,051	7,936	4,625	4,117	4,615	1,245	1,277	651	376	579	1,917	1,623	1,257	1,065
Minors.	1,505	633	602	335	300	285	100	95	45	25	25	25	25	25	25
Country.	16,993	16,993	16,993	16,993	16,993	16,993	16,993	16,993	16,993	16,993	16,993	16,993	16,993	16,993	16,993

The number of deaths reported for the year 1871....

White.....

Colored.....

Males.....

Females.....

From which deduet Still-born.....

Country.....



The mortality of adults amounted to eight thousand two hundred and fifty one (8,251), an increase over the previous year of three hundred and fifty-six (356), while the mortality of children was eight thousand seven hundred and forty-two (8,742), a decrease from the previous year of eighty-three (83).

By reference to table VI. it will be observed that twelve thousand nine hundred and three (12,903) of those died were born in the United States; three thousand three hundred and ninety-eight (3,398) were of foreign birth, and six hundred and ninety-two (692) whose nativities were unknown.

*Apoplexy*.—This was the reported cause of two hundred and forty-eight (248) deaths, an increase over the previous year of eight (8); one hundred and forty-five (145) were males, and one hundred and three (103) were females; two hundred and thirty-two (232) were adults, and sixteen (16) were children.

*Cancer*.—The number of deaths from cancer were two hundred and eighty (280), an increase over the previous year of nineteen (19); they were classified as follows: Cancer, eighty-three, (83); of the breast, sixteen (16); of the bladder, two (2); of the colon, one (1); of the ear, one (1); of the eye, one (1); of the face, eight (8); of the glottis, one (1); of the jaw, one (1); of the kidney, two (2); of the liver, twenty-five (25); of the lung, two (2); of the leg, one (1); of the neck, one (1); of the ovaries, two (2); of the œsophagus, one (1); of the pylorus, nine (9); of the pancreas, four (4); of the rectum, eight (8); of the stomach and bowels, fifty-eight (58); of the spine, one (1); of the throat, one (1); of the tongue, two (2); of the uterus, forty-nine (49).

*Croup*.—Of this much dreaded disease of children two hundred and sixty four (264) deaths were reported, a decrease from the previous year of fifty-two (52); of this number one hundred and thirty-two (132) were males, and one hundred and thirty-two (132) were females; the number of children under five years amounted to two hundred and thirty-four (234).

*Convulsions.*—The deaths thus classed amounted to six hundred and thirty-nine (639), a decrease from the previous year of ninety-four (94); twenty-six (26) were adults, and six hundred and thirteen (613) were children.

*Consumption of the Lungs.*—The number of deaths from consumption amounted to two thousand two hundred and thirty-seven (2,237), a decrease from the previous year of seventy-one (71); of those died one thousand three hundred and eighty-one (1,381) were born in the United States, while those of foreign birth were seven hundred and thirty-two (732). The deaths in each month of the year were as follows :

January .....	174	July.....	168
February.....	205	August .....	204
March .....	259	September .....	170
April .....	207	October .....	181
May.....	188	November .....	149
June .....	147	December.....	185

The largest number of deaths occurred in the month of March, and the smallest number in June.

The average deaths from this disease in each month.....	186
" " " " " " week.....	43
" " " " " " day .....	6

*Cholera Infantum.*—The number of deaths from this disease amounted to eight hundred and twenty-nine (829); four hundred and forty-six (446) were males, and three hundred and eighty-three (383) were females; six hundred and twenty-nine (629) died under one year.

*Cholera Morbus.*—The number of deaths from this disease amounted to thirty-three (33), a decrease from the previous year of five (5); twenty-four (24) were adults, and nine (9) were children.

*Diphtheria.*—The number of deaths from diphtheria was one hundred and forty-five (145), a decrease from the previous year

of twenty-seven (27); of which number seventy-four (74) were males, and seventy-one (71) were females; six (6) were adults, and one hundred and thirty-nine (139) were children. They were classified as follows:

Male adults.....	3	Male children.....	71
Female " .....	3	Female " . .....	68
Deaths, first quarter.....	48		
" second " .....	32		
" third " .....	29		
" fourth " .....	36		

*Diarrhaea*.—The number of deaths reported from this disease amounted to one hundred and seventy-four (174), a decrease from the previous year of seventeen (17); of which ninety-three (93) were males, and eighty-one (81) were females; eighty-one (81) were adults, and ninety-three (93) were children.

*Dysentery*.—Furnishes ninety-four (94) deaths, an increase over the previous year of twelve (12); fifty-four (54) were adults, and forty (40) were children; forty-seven (47) were males, and forty-seven (47) were females.

*Debility*.—The number of deaths reported under this head amounted to seven hundred and fifty-two (752), a decrease from the previous year of fifty-seven (57); of which four hundred and eighteen (418) were males, and three hundred and thirty-four (334) were females; two hundred and thirty-three (233) were adults, and five hundred and nineteen (519) were children.

*Fever, Relapsing*.—The number of deaths from this disease amounted to seven (7), a decrease from the previous year of one hundred and fifty-five (155).

*Fever, Scarlet*.—The deaths from this much dreaded disease amounted to two hundred and sixty-two (262), a decrease from the previous year of six hundred and ninety-four (694); of those who died, eight (8) were adults and two hundred and fifty-four

(254) were children; one hundred and eighty (180) were under five years; eight (8) were over the age of twenty.

Deaths, first quarter, . . .	114
“ seeond “ . . .	84
“ third “ . . .	28
“ fourth “ . . .	36

*Fever, Typhoid.*—The number of deaths from this disease amounted to three hundred and thirteen (313), a decrease from the previous year of ninety-six (96); one hundred and sixty-eight (168) were males, and one hundred and forty-five (145) were females; two hundred and nine (209) were adults, and one hundred and four (104) were children; two hundred and eighteen (218) were natives of the United States; ninety (90) were of foreign birth, and five (5) whose nativities were unknown.

*Fever, Typhus.*—Of this disease we have registered thirty-seven (37) deaths, a decrease from the previous year of thirty-two (32); twenty-seven (27) were adults, and ten (10) were children; twenty-one (21) were males, and sixteen (16) were females.

*Hooping Cough.*—We have registered from this disease eighty-one (81) deaths; twenty-nine (29) were males, and fifty-two (52) were females.

*Hernia.*—We have registered seventeen (17) deaths, an increase from the previous year of five (5); seven (7) were males, and ten (10) were females.

*Inflammation of the Brain.*—Of this disease we have reorded four hundred and one (401), a deerease of twelve (12) from the previous year; two hundred and eight (208) were males, and one hundred and ninety-three (193) were females; fifty-nine (59) were adults, and three hundred and forty-two (342) were ehildren; three hundred and one (301) were under the age of five

(5) years ; three hundred and seventy-three (373) were born in the United States ; twenty-four (24) were of foreign birth, and four (4) whose nativities were unknown.

*Murder.*—We have registered twenty (20) deaths from violence, an increase over the previous year of three (3) ; ten (10) were natives of the United States ; eight (8) were of foreign birth, and two (2) whose nativities were unknown ; nineteen (19) were adults, and one (1) child.

*Mania-a-potu.*—Under this head we have registered twenty-seven (27) deaths, a decrease from the previous year of twenty-nine (29) ; twenty-five (25) were males, and two (2) were females ; twelve (12) were natives of the United States, nine (9) were of foreign birth, and six (6) whose nativities were unknown.

*Old Age.*—The number of deaths reported from Old Age amounted to five hundred and fifty-four (554), a decrease from the previous year of thirty-four (34) ; two hundred and three (203) were males, and three hundred and fifty-one (351) were females ; two hundred and forty-eight (248) were natives of the United States, two hundred and sixty-four (264) were of foreign birth, and forty-two (42) whose nativities were unknown.

*Small-pox.*—In the early part of the year this loathsome disease made its appearance, but did not attract any particular attention until August, when it began to assume the form of an epidemic and continued gradually until the month of October, when we registered three hundred and thirty-one (331) deaths ; it still continued with greater violence until the end of the year, when our entire mortality reached one thousand eight hundred and seventy-nine (1,879) ; previous to October, we only had registered forty-seven (47) deaths, thus leaving one thousand eight hundred and thirty-two (1,832) in the months of October, November, and December.

TABLE VII.

*The following table shows the percentage of deaths during specified periods of life, compared with a similar statement of the mortality in the year 1870.*

1870.				1871.			
Under 1 year.	4,629	Being	27.63 per cent.	4,615	Being	27.15 per cent.	
1 to 2 "	1,339	"	7.90 "	1,245	"	7.32 "	
2 " 5 "	1,464	"	8.74 "	1,277	"	7.51 "	
5 " 10 "	644	"	3.84 "	651	"	3.83 "	
10 " 15 "	300	"	1.79 "	375	"	2.20 "	
15 " 20 "	449	"	2.68 "	579	"	3.40 "	
20 " 30 "	1,632	"	9.74 "	1,917	"	1.12 "	
30 " 40 "	1,491	"	8.90 "	1,623	"	9.55 "	
40 " 50 "	1,269	"	7.57 "	1,257	"	7.39 "	
50 " 60 "	1,065	"	6.35 "	1,051	"	6.18 "	
60 " 70 "	1,027	"	6.13 "	1,005	"	5.91 "	
70 " 80 "	895	"	5.34 "	871	"	5.12 "	
80 " 90 "	422	"	2.51 "	433	"	2.54 "	
90 " 100 "	114	"	.68 "	85	"	.50 "	
100 " 110 "	10	"	.05 "	8	"	.04 "	
120 " 130 "	.....	"	.....	1	"	.005 "	
Total .....	16,750	.....	.....	16,993	.....	.....	

It will be observed from the foregoing table that four thousand six hundred and fifteen (4,615), or 27.15 per cent. of all the deaths were of children under one year of age.

The total number of children under ten years was seven thousand seven hundred and eighty-eight (7,788), or 45.83 per cent., while those over the age of sixty amounted to two thousand four hundred and three (2,403), or 14.14 per cent.

TABLE VIII.—*The number of Deaths in each week, in the City of Philadelphia, with the Age, Sex, Nativity, and Wards, for the year 1871.*

AGES.												Country.														
People of Color.																										
Alms house.													Minors.													
Minors.																										
Weeks Ending.	1871.	1	2	5	10	15	20	30	40	50	60	70	80	100	120	130										
		Males.	Females.	Boys.	Girls.	Year.	Days.	Years.	Months.	Weeks.	Days.	Years.	Months.	Weeks.	Days.	Years.										
January	7.	255	135	120	75	56	63	18	27	10	4	9	20	24	18	14	7	1	1	124	131	10	30	5		
"	14.	296	148	148	71	63	74	16	18	13	3	11	31	29	30	23	21	16	9	162	134	6	37	11		
"	21.	323	159	164	85	79	90	18	34	12	5	6	29	29	31	20	17	19	12	2	159	164	11	9	10	
"	28.	280	144	136	67	68	70	23	25	9	1	7	29	25	23	20	19	15	10	3	1	145	135	14	17	13
February	4.	328	178	150	75	62	72	23	33	8	4	5	42	42	26	25	21	19	8	1	188	140	14	22	16	
"	11.	280	163	117	80	56	71	26	21	6	5	1	36	33	18	14	14	14	7	3	1	144	136	9	18	5
"	18.	274	135	139	70	65	71	15	16	11	8	8	25	24	21	20	13	9	2	1	139	135	12	11	9	
"	25.	285	152	123	70	67	76	19	23	11	4	4	24	26	20	14	20	16	2	1	148	137	5	13	12	
March	4.	306	163	143	83	59	90	13	24	8	4	4	28	41	29	18	24	22	8	3	1	164	142	4	19	17
"	11.	310	169	141	87	67	82	27	19	11	5	10	36	29	24	21	17	22	5	2	1	156	154	12	19	13
"	18.	318	127	111	58	45	56	9	17	11	5	5	21	22	23	18	21	12	8	2	1	135	103	8	14	8
"	25.	315	149	166	71	70	74	15	26	13	4	9	21	34	33	25	26	17	15	3	1	174	141	8	22	20
April	1.	260	145	116	65	56	71	13	22	6	4	5	36	21	18	18	21	21	5	1	140	121	6	24	13	
"	8.	290	162	138	81	62	76	23	21	7	4	5	20	34	29	22	22	10	5	1	147	143	9	21	16	
"	15.	277	110	137	61	51	63	14	19	8	3	5	35	29	30	17	25	19	8	2	1	166	112	11	12	10
"	22.	295	135	133	58	49	55	10	17	8	10	7	45	29	18	19	19	15	12	1	161	107	9	8	3	
"	29.	269	145	124	66	55	56	17	26	16	5	7	34	26	28	16	18	16	9	2	1	148	121	6	14	10
May	6.	248	129	119	54	44	55	18	14	8	2	1	27	27	25	20	23	19	8	1	1	150	98	6	19	7
"	13.	20.	122	116	57	47	62	15	18	1	4	4	26	27	25	12	18	15	9	2	1	134	104	12	13	9
"	20.	254	131	123	56	61	65	20	16	8	6	5	31	19	20	19	22	15	12	2	1	138	116	11	16	7
"	27.	242	126	116	58	41	54	9	13	9	10	4	15	30	27	20	22	15	12	2	1	143	99	2	14	5
June	3.	215	170	145	78	61	75	13	20	9	10	12	49	30	28	19	18	19	13	2	1	176	139	9	20	9
"	10.	292	155	137	85	65	93	16	18	14	4	5	38	30	24	15	12	16	9	2	1	142	156	7	22	9
"	17.	283	161	122	81	66	101	21	10	5	2	8	27	22	21	20	27	13	5	1	1	136	147	8	6	9
"	24.	321	176	145	97	79	107	23	20	9	8	9	24	32	28	15	28	13	5	2	2	145	176	8	20	12
July	1.	329	174	155	114	91	144	26	18	7	6	4	31	25	11	12	22	19	2	1	1	124	205	6	19	6

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WARDS.

Weeks' Lininger.

Nativity.	Weeks Ending,																													
	1871.		1872.		1873.		1874.		1875.		1876.		1877.		1878.		1879.		1880.		1881.		1882.		1883.					
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.				
January	7.....	14.....	14.....	10.....	6.....	10.....	5.....	13.....	8.....	4.....	12.....	4.....	3.....	7.....	5.....	19.....	7.....	10.....	8.....	24.....	18.....	3.....	7.....	2.....	16.....	17.....	1.....			
"	14.....	14.....	14.....	11.....	12.....	8.....	18.....	9.....	4.....	9.....	5.....	6.....	5.....	7.....	6.....	11.....	8.....	19.....	9.....	25.....	28.....	9.....	9.....	7.....	8.....	21.....	7.....			
"	21.....	21.....	21.....	22.....	17.....	9.....	13.....	6.....	6.....	8.....	6.....	6.....	8.....	6.....	6.....	9.....	17.....	11.....	13.....	24.....	29.....	2.....	7.....	13.....	10.....	18.....	1.....			
"	28.....	28.....	28.....	14.....	12.....	10.....	14.....	9.....	9.....	12.....	6.....	6.....	8.....	6.....	6.....	9.....	22.....	11.....	9.....	25.....	20.....	6.....	16.....	19.....	10.....	19.....	15.....			
February	4.....	11.....	11.....	10.....	12.....	9.....	15.....	12.....	6.....	12.....	6.....	10.....	9.....	8.....	22.....	11.....	9.....	25.....	24.....	21.....	16.....	22.....	12.....	3.....	15.....	18.....	1.....			
"	11.....	11.....	11.....	15.....	14.....	12.....	9.....	14.....	7.....	5.....	7.....	5.....	6.....	5.....	6.....	12.....	12.....	11.....	17.....	11.....	14.....	16.....	12.....	3.....	16.....	17.....	2.....			
"	18.....	18.....	18.....	13.....	15.....	7.....	10.....	6.....	15.....	6.....	7.....	6.....	7.....	6.....	7.....	11.....	22.....	4.....	12.....	8.....	22.....	27.....	3.....	8.....	9.....	5.....	17.....	12.....		
March	4.....	11.....	11.....	15.....	23.....	5.....	10.....	9.....	3.....	14.....	10.....	6.....	8.....	7.....	5.....	13.....	17.....	7.....	11.....	7.....	20.....	24.....	5.....	8.....	4.....	9.....	5.....	17.....	19.....	
"	11.....	11.....	11.....	13.....	13.....	13.....	13.....	13.....	8.....	10.....	7.....	9.....	10.....	8.....	8.....	10.....	23.....	18.....	10.....	16.....	17.....	20.....	24.....	5.....	12.....	3.....	16.....	17.....	3.....	
"	18.....	18.....	18.....	12.....	9.....	11.....	13.....	6.....	5.....	13.....	7.....	6.....	5.....	13.....	7.....	6.....	13.....	7.....	13.....	17.....	11.....	17.....	20.....	24.....	5.....	12.....	3.....	16.....	17.....	3.....
"	25.....	25.....	25.....	16.....	14.....	25.....	8.....	10.....	9.....	2.....	20.....	4.....	6.....	14.....	4.....	6.....	7.....	13.....	17.....	11.....	17.....	20.....	24.....	5.....	12.....	3.....	16.....	17.....	5.....	
April	1.....	1.....	1.....	19.....	12.....	6.....	12.....	9.....	5.....	13.....	3.....	6.....	12.....	5.....	6.....	7.....	10.....	15.....	6.....	9.....	8.....	20.....	26.....	6.....	3.....	4.....	17.....	7.....	13.....	
"	8.....	8.....	8.....	13.....	8.....	18.....	7.....	6.....	15.....	6.....	7.....	6.....	7.....	6.....	7.....	11.....	22.....	4.....	12.....	8.....	21.....	23.....	2.....	6.....	12.....	4.....	13.....	15.....	5.....	
"	15.....	15.....	15.....	19.....	17.....	16.....	6.....	11.....	3.....	11.....	3.....	6.....	4.....	5.....	9.....	5.....	11.....	17.....	11.....	17.....	22.....	20.....	4.....	6.....	3.....	3.....	7.....	4.....	13.....	17.....
"	22.....	22.....	22.....	13.....	13.....	13.....	13.....	13.....	8.....	10.....	7.....	12.....	8.....	8.....	8.....	8.....	12.....	11.....	11.....	11.....	11.....	11.....	22.....	3.....	3.....	4.....	2.....	13.....	20.....	
"	29.....	29.....	29.....	16.....	14.....	11.....	14.....	11.....	14.....	6.....	9.....	18.....	6.....	4.....	13.....	6.....	3.....	8.....	2.....	13.....	6.....	12.....	12.....	24.....	13.....	6.....	6.....	7.....	17.....	10.....
May	6.....	6.....	6.....	17.....	14.....	17.....	10.....	8.....	16.....	7.....	13.....	2.....	5.....	4.....	5.....	4.....	5.....	10.....	15.....	6.....	10.....	15.....	20.....	5.....	13.....	17.....	2.....	9.....	5.....	14.....
"	13.....	13.....	13.....	16.....	16.....	16.....	16.....	16.....	4.....	10.....	5.....	15.....	10.....	8.....	5.....	6.....	5.....	10.....	15.....	6.....	10.....	15.....	20.....	5.....	13.....	17.....	2.....	9.....	5.....	14.....
"	20.....	20.....	20.....	19.....	12.....	6.....	12.....	10.....	6.....	15.....	10.....	8.....	10.....	5.....	6.....	5.....	10.....	15.....	6.....	10.....	15.....	20.....	5.....	13.....	17.....	2.....	9.....	5.....	14.....	
"	27.....	27.....	27.....	17.....	6.....	9.....	10.....	9.....	7.....	11.....	10.....	6.....	6.....	6.....	6.....	6.....	7.....	17.....	5.....	9.....	15.....	16.....	23.....	1.....	7.....	4.....	9.....	12.....	5.....	
June	3.....	3.....	3.....	22.....	81.....	10.....	15.....	12.....	9.....	11.....	15.....	10.....	7.....	7.....	10.....	11.....	4.....	8.....	15.....	11.....	10.....	12.....	24.....	1.....	7.....	4.....	9.....	12.....	5.....	
"	10.....	10.....	10.....	22.....	56.....	9.....	19.....	10.....	9.....	12.....	7.....	3.....	22.....	9.....	3.....	4.....	6.....	11.....	19.....	6.....	7.....	11.....	26.....	3.....	21.....	16.....	2.....	22.....	15.....	2.....
"	17.....	17.....	17.....	17.....	58.....	13.....	17.....	18.....	6.....	9.....	7.....	13.....	12.....	11.....	10.....	11.....	11.....	16.....	9.....	12.....	16.....	22.....	15.....	2.....	21.....	16.....	2.....	22.....	15.....	2.....
"	24.....	24.....	24.....	18.....	18.....	18.....	18.....	18.....	8.....	10.....	8.....	10.....	10.....	8.....	8.....	10.....	18.....	11.....	11.....	11.....	11.....	11.....	23.....	1.....	10.....	9.....	12.....	11.....	1.....	
"	31.....	31.....	31.....	18.....	15.....	10.....	13.....	9.....	6.....	19.....	11.....	9.....	10.....	13.....	9.....	5.....	9.....	7.....	11.....	10.....	10.....	10.....	10.....	10.....	10.....	10.....	10.....	10.....	10.....	10.....
July	1.....	1.....	1.....	21.....	50.....	4.....	18.....	15.....	10.....	13.....	9.....	6.....	19.....	11.....	9.....	6.....	19.....	11.....	11.....	11.....	11.....	11.....	23.....	1.....	10.....	9.....	12.....	11.....	1.....	

TABLE VIII—Continued.

1871.

Weeks Ending,		AGES.																								
Total.	Males.	Females.	Boys.	Girls.	Cherds.	Year.	1	2	5	10	15	20	30	40	50	60	70	80	90	100	120	Alms house.	Mirrors.	Peopple of Color.	Country.	
July	8.....	379	206	173	127	112	173	27	18	7	2	12	30	26	24	20	18	15	7	2	16	239	16	21	9	
"	15.....	460	255	216	167	132	211	52	18	6	4	7	28	38	18	15	12	10	16	20	11	16	299	10	16	21
"	22.....	421	224	197	152	137	186	56	19	6	5	7	36	30	19	16	20	11	9	10	16	20	11	17	14	14
"	29.....	396	196	209	126	124	160	45	26	9	5	5	26	33	19	20	23	13	10	2	13	16	250	7	21	22
August	5.....	319	146	117	93	99	122	34	18	7	6	4	28	22	24	16	10	18	10	16	10	18	191	6	17	20
"	12.....	329	172	147	115	98	125	48	15	9	5	7	11	30	27	17	13	11	14	9	2	12	216	9	16	19
"	19.....	340	184	176	105	86	120	42	19	8	4	5	15	38	39	31	17	16	12	1	1	1	191	9	20	10
"	26.....	282	151	131	88	76	96	39	13	5	2	2	9	24	26	17	12	19	16	4	11	18	164	9	15	16
September	2.....	252	122	131	71	70	80	23	12	4	1	1	12	25	20	11	15	16	5	1	1	12	141	12	12	12
"	9.....	283	161	122	81	78	91	32	14	7	3	9	10	30	25	24	15	12	13	5	1	1	159	8	20	9
"	16.....	270	140	130	67	72	81	28	11	3	5	11	16	31	28	23	14	9	1	1	1	139	7	9	12	
"	23.....	258	137	121	59	47	62	16	10	5	8	5	11	29	22	23	12	17	7	3	1	1	106	8	10	12
"	30.....	269	143	126	63	64	73	13	17	8	5	11	25	24	15	26	19	22	8	3	1	1	142	12	6	10
October	7.....	262	159	103	83	48	74	16	10	12	9	10	16	27	26	21	22	14	13	8	1	1	131	5	13	13
"	14.....	316	166	153	78	70	70	22	29	15	8	9	40	36	24	19	19	25	5	1	1	1	151	15	10	13
"	21.....	313	161	162	87	74	63	22	28	14	9	14	36	35	25	19	19	29	16	7	1	1	161	9	14	9
"	28.....	329	185	144	87	68	64	21	23	19	15	13	50	34	24	8	4	2	1	1	1	155	8	13	13	
November	4.....	325	173	151	91	83	72	23	23	19	9	16	50	33	29	21	11	5	3	1	1	161	164	2	21	15
"	11.....	372	180	192	93	108	78	31	30	13	8	18	52	27	33	23	12	14	9	1	1	1	201	8	15	16
"	18.....	420	236	194	124	105	91	19	34	15	29	47	43	33	18	27	10	10	3	1	1	1	229	7	32	8
"	25.....	394	190	166	85	112	70	18	46	23	16	24	66	34	23	11	17	7	1	1	1	1	197	2	30	15
December	2.....	568	264	244	129	132	92	34	44	36	20	25	84	42	36	31	20	19	14	1	1	1	247	8	37	15
"	9.....	482	255	227	129	130	92	35	44	36	20	25	76	44	33	21	19	12	6	3	1	1	239	8	26	12
"	16.....	512	286	227	141	130	93	27	62	39	19	32	72	47	32	30	24	21	6	3	1	1	274	2	30	15
"	23.....	554	304	250	138	333	106	26	60	62	34	38	71	56	33	25	16	30	1	1	1	1	283	7	26	15
"	30.....	540	290	250	161	136	169	37	53	46	18	33	81	56	33	25	16	30	1	1	1	1	287	9	42	8
Totals.....		16,932	8912	8051	4625	4117	4615	1245	127	651	375	579	1917	1023	1257	1163	8571	433	85	8	1	1	1	1	1	1

1871.

Weeks Ending.

N.Y.A.I.L.I.M.

TABLE IX.—*Deaths in each Ward.*

*The following table of mortality in each ward, with population (according to the late census), with the ratio of deaths to population and the percentage of deaths in each ward to the total mortality.*

WARDS.	Population.	Deaths.	Deaths to Population.	Percentage of deaths to total mortality.
First .....	25,817	653	1 in 40	3.84
Second .....	30,220	757	1 in 40	4.45
Third.....	19,149	539	1 in 36	3.11
Fourth .....	20,852	722	1 in 29	4.24
Fifth .....	18,736	510	1 in 37	3.
Sixth.....	12,064	267	1 in 45	1.57
Seventh.....	31,558	816	1 in 37	4.97
Eighth.....	22,286	421	1 in 53	2.47
Ninth.....	16,629	334	1 in 50	1.96
Tenth.....	23,312	465	1 in 50	2.73
Eleventh.....	14,845	405	1 in 37	2.38
Twelfth .....	15,771	325	1 in 44	1.91
Thirteenth.....	19,956	351	1 in 57	2.06
Fourteenth.....	22,643	471	1 in 48	2.77
Fifteenth .....	44,650	888	1 in 50	5.22
Sixteenth.....	19,256	501	1 in 38	3.
Seventeenth.....	21,347	622	1 in 34	3.60
Eighteenth.....	26,366	686	1 in 38	4.03
Nineteenth .....	45,240	1,336	1 in 33	7.86
Twentieth .....	56,642	1,418	1 in 40	8.34
Twenty-first.....	13,861	196	1 in 70	1.15
Twenty-second .....	22,605	346	1 in 65	2.03
Twenty-third .....	20,888	320	1 in 65	1.88
Twenty-fourth.....	24,932	536	1 in 47	3.15
Twenty-fifth.....	18,639	423	1 in 44	2.48
Twenty-sixth.....	36,603	838	1 in 44	4.93
Twenty-seventh .....	19,385	359	1 in 54	2.11
Twenty eighth .....	10,370	†24		
*Twenty ninth .....				
Almshouse.....		401		
Country .....		633		
Total deaths for 12 months.....		16,993		
Total population.....	674,022			

Ratio of deaths to population, 1 in 41.

\* This ward having been formed from a portion of the Twentieth about March, no deaths were charged against it.

† Includes deaths in Municipal Hospital.

The highest mortality occurred in the Twentieth Ward—one thousand four hundred and eighteen (1,418), and the lowest number in the Twenty-first Ward—one hundred and ninety-six (196); the highest ratio of deaths, according to population, occurred in the Fourth Ward, 1 in 29, while the Twenty-first Ward appears to be the healthiest ward, 1 in 70.

TABLE X.—DEATHS. *Adults and Children.*

MONTHS.	Males.	Females.	Adults.	Children.	Totals.
January,	586	568	590	564	1,154
February,	628	539	619	548	1,167
March,	753	677	769	661	1,430
April,	572	532	621	483	1,104
May,	678	619	741	556	1,297
June,	666	559	547	678	1,225
July,	881	775	579	1,077	1,656
August,	775	778	650	903	1,553
September,	581	499	549	531	1,080
October,	828	717	783	762	1,545
November,	860	834	806	888	1,694
December,	1,134	954	997	1,091	2,088
	8,942	8,051	8,251	8,742	16,993
	16,993		16,993		
Excess of males over females,	:	:	:	:	891
Excess of children over adults,	:	:	:	:	491

It will be observed from the foregoing table that the number of male deaths amounted to eight thousand nine hundred and forty-two (8,942), and the number of females eight thousand and fifty-one (8,051), an excess of males of eight hundred and ninety-one (891).

The number of children that died amounted to eight thousand seven hundred and forty-two (8,742), an excess of four hundred and ninety-one (491) over that of adults, and when compared with the entire mortality, is equal to 52.39 per cent., or more than one-half of the total deaths in our city.

TABLE XI.

*Marriages, Births, and Deaths for each Month.*

1871.		MONTHS.	Marriages.	Births.	Deaths.
January,	.	.	537	1,596	1,154
February	.	.	533	1,476	1,167
March,	.	.	411	1,395	1,430
April,	.	.	595	1,320	1,104
May,	.	.	563	1,284	1,297
June,	.	.	593	1,423	1,225
July,	.	.	478	1,648	1,656
August,	.	.	463	1,734	1,553
September,	.	.	588	1,635	1,080
October,	.	.	707	1,682	1,545
November,	.	.	657	1,526	1,694
December,	.	.	681	1,627	2,088
Totals,		.	6,806	18,346	16,993

TABLE XII.

*Daily return of Small-pox cases during the year 1871.*

Days of the Month.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
1.....					3				2		111	83	199
2.....	1		1		2	1			2	8	74	87	176
3.....	1	1				2	1			18	104	74	201
4.....							2	8		34	83	121	248
5.....				1		1	1		1	52	32	108	196
6.....	3								6	75	100	120	304
7.....						1	7	2	2	49	88	161	308
8.....					1		1	5	4	25	92	116	244
9.....	1		1		1		2	2		71	52	99	229
10.....				1		1	6	1		43	67	70	189
11.....						1	3	1	1	37	60	134	236
12.....					1	1		6	3	32	70	122	235
13.....	2			1						63	119	132	317
14.....		1						5	2	72	105	120	305
15.....	1		1	1				2	1	24	90	109	229
16.....	1							2	1	76	90	119	289
17.....	1	1	2		1	1	1	1	1	84	92	67	251
18.....			1		1			1	5	51	117	154	330
19.....				1		1	1	1	5	44	65	114	232
20.....					1		1		8	53	155	103	321
21.....									5	37	154	86	282
22.....				1	1	1			5	36	158	112	314
23.....	1					1			4	85	156	92	339
24.....										64	134	69	267
25.....									12	64	92	124	292
26.....								2	5	62	77	150	296
27.....	2	1						1	9	78	128	148	367
28.....	1						1	5	6	84	105	123	325
29.....					1			5	5	36	100	105	252
30.....	1			1	1		1	5		82	74	85	250
31.....	1				1					89			91
Totals,	13	6	4	8	9	11	15	58	111	1,628	2,944	3,307	8,114

It will be observed from the foregoing table the month of December contributed the largest number of cases—three thousand three hundred and seven (3,307), the epidemic having reached its height in this month.

TABLE XIII.

*Monthly return of Small-pox cases in each ward during the year 1871.*

Wards.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
1.....	1	.....	.....	.....	1	.....	.....	.....	1	22	88	132	246
2.....	.....	.....	1	1	.....	.....	.....	.....	2	38	118	163	323
3.....	.....	1	.....	.....	.....	.....	.....	.....	2	41	118	151	313
4.....	2	.....	1	.....	.....	1	1	4	2	64	208	189	470
5.....	1	1	1	.....	.....	.....	2	1	2	49	69	124	248
6.....	6	1	.....	1	.....	.....	2	2	2	28	59	64	161
7.....	.....	1	2	.....	1	2	4	5	5	74	132	149	370
8.....	1	.....	1	.....	.....	1	21	2	2	21	43	54	144
9.....	.....	.....	2	.....	.....	6	5	5	39	43	53	53	148
10.....	.....	.....	.....	1	.....	6	8	.....	114	176	109	414	
11.....	3	.....	.....	.....	.....	.....	.....	3	3	27	93	161	287
12.....	.....	.....	.....	.....	.....	2	3	3	30	86	95	216	
13.....	.....	.....	.....	.....	.....	1	3	3	53	119	87	263	
14.....	.....	.....	.....	.....	1	1	10	10	58	115	110	295	
15.....	.....	.....	.....	.....	1	2	9	9	27	131	217	387	
16.....	.....	.....	.....	.....	.....	1	11	11	45	115	136	308	
17.....	1	.....	.....	.....	.....	.....	1	1	32	118	154	306	
18.....	.....	.....	.....	.....	1	.....	1	1	82	160	166	410	
19.....	2	.....	.....	3	.....	1	5	5	52	197	277	537	
20.....	.....	.....	1	1	.....	.....	22	22	551	371	207	1,153	
21.....	.....	.....	.....	.....	1	.....	.....	.....	6	9	9	16	
22.....	.....	1	.....	.....	.....	.....	.....	2	2	14	31	48	
23.....	.....	.....	.....	.....	.....	1	.....	.....	15	59	42	117	
24.....	.....	.....	2	1	1	3	3	3	40	32	49	131	
25.....	.....	.....	1	1	.....	.....	.....	.....	11	59	76	148	
26.....	1	.....	1	2	7	7	5	5	37	88	127	268	
27.....	.....	.....	1	1	1	.....	.....	.....	10	14	28	55	
28.....	.....	.....	.....	.....	.....	.....	2	2	35	54	58	149	
29.....	1	.....	2	.....	.....	.....	1	1	31	59	89	183	
Totals,	13	6	4	8	9	11	15	58	111	1,628	2,944	3,307	8,114

From the above table it will be seen the largest number of cases occurred in the Twentieth Ward, one thousand one hundred and fifty-three (1,153). In this ward the epidemic commenced the latter part of September, and culminated the latter part of October. It then gradually declined, and spread all over the city.

TABLE XIV.

The following table will show the number of small-pox cases and deaths, with the ratio of deaths in each ward, during the year 1871.

WARDS.	Cases.	Deaths.	Ratio of Deaths.
First.....	246	48	1 in 5.1
Second.....	323	74	1 " 4.5
Third.....	313	104	1 " 3.
Fourth.....	470	117	1 " 4.
Fifth.....	248	51	1 " 4.8
Sixth.....	161	18	1 " 8.9
Seventh.....	370	61	1 " 6.
Eighth.....	144	27	1 " 5.3
Ninth.....	148	20	1 " 7.4
Tenth.....	414	61	1 " 6.7
Eleventh.....	287	59	1 " 4.8
Twelfth.....	216	43	1 " 5.
Thirteenth.....	263	44	1 " 5.9
Fourteenth.....	295	51	1 " 5.7
Fifteenth.....	387	61	1 " 6.3
Sixteenth.....	308	104	1 " 2.9
Seventeenth.....	306	66	1 " 4.6
Eighteenth.....	410	89	1 " 4.6
Nineteenth.....	537	125	1 " 4.2
Twentieth.....	*1,336	†207	1 " 6.4
Twenty-first.....	16	2	1 " 8.
Twenty-second.....	48	5	1 " 9.6
Twenty-third.....	117	31	1 " 3.7
Twenty-fourth.....	131	23	1 " 5.7
Twenty-fifth.....	148	30	1 " 4.9
Twenty-sixth.....	268	42	1 " 6.3
Twenty-seventh.....	55	12	1 " 4.5
Twenty-eighth.....	149	41	1 " 3.1
†Twenty-ninth.....			
	8,114	1,879	

Ratio of deaths, 1 in 4.3.

\*Includes 183 cases in Twenty-ninth Ward.

†Includes deaths " " "

†The Twenty-ninth Ward was not recognized in our statistics, having been formed after the year commenced.

TABLE XV.

*Number of small-pox cases in each week during the epidemic, with the deaths and ratio of deaths during 1871.*

Weeks Ending.	Cases.	Deaths.	Ratio of deaths to cases.
September 9th.....	23	1	1 in 23.
" 16th.....	9	6	1 " 1.5
" 23d .....	33	4	1 " 8.2
" 30th.....	42	7	1 " 6.
October 7th.....	236	23	1 " 10.2
" 14th.....	343	54	1 " 6.3
" 21st.....	369	74	1 " 4.8
" 28th.....	473	85	1 " 5.5
November 4th.....	579	95	1 " 6.
" 11th.....	491	101	1 " 4.08
" 18th.....	683	153	1 " 4.4
" 25th.....	914	153	1 " 5.9
December 2d .....	654	233	1 " 2.8
" 9th.....	799	199	1 " 4.
" 16th.....	806	211	1 " 3.8
" 23rd.....	728	228	1 " 3.1
" 30th.....	804	223	1 " 3.5
	7,986	1,850	1 " 4.3

TABLE XVI.

*Deaths in each year, from small-pox, from 1807 to 1871, inclusive, with the average population of each year and deaths to every 1,000 persons living.*

Years.	Deaths.	Deaths to 1000 living persons.	Years.	Deaths.	Deaths to 1000 living persons.
1807	32	.28	1816	251	.61
1808	145	1.28	1847	9	.02
1809	101	.90	1848	100	.24
1810	31	.30	1849	152	.37
1811	117	1.01	1850	40	.09
1812			1851	216	.52
1813			1852	427	1.04
1814			1853	57	.13
1815			1854	40	.09
1816	97	.77	1855	275	.67
1817	52	.30	1856	390	.68
1818	8	.05	1857	65	.11
1819	1		1858	7	.01
1820			1859	2	.003
1821			1860	57	.10
1822			1861	758	1.34
1823	160	1.16	1862	264	.46
1824	325	2.37	1863	171	.30
1825	6	.04	1864	260	.45
1826	3	.01	1865	524	.92
1827	100	.52	1866	144	.21
1828	107	.56	1867	48	.07
1829	81	.42	1868	48	.07
1830	86	.45	1869	6	.008
1831	14	.07	1870	9	.01
1832	37	.19	1871	1,879	2.78
1833	156	.82			
1834	195	1.03			
1835	101	.53			
1836	86	.33			
1837	79	.34			
1838	42	.16			
1839	5	.01			
1840	63	.24			
1841	259	1.			
1842	156	.60			
1843	36	.13			
1844	17	.06			
1845	190	.73			

It will be observed the mortality during the year 1871, from small-pox, was the highest that ever has been reached in our city—2.78 deaths in every 1,000 persons living; in the year 1824 the deaths amounted to three hundred and twenty-five (325), or 2.37 deaths in every 1,000 persons living.

## TABLE XVII.

*The following table will show a general summary of the returns of this department for the past eleven years and six months.*

Years.	Births.	Marriages.	Deaths.
1860 (six months).....	8,434	2,310	6,342
1861.....	17,271	4,417	14,468
1862.....	14,741	4,662	15,097
1863.....	15,293	5,474	15,788
1864.....	15,591	6,752	17,582
1865.....	15,428	6,864	17,169
1866.....	17,437	7,087	16,803
1867.....	17,007	6,084	13,933
1868.....	17,259	6,371	14,693
1869.....	16,960	6,382	14,786
1870.....	17,194	6,421	16,750
1871.....	18,346	6,806	16,993
Totals,	190,961	69,630	180,404

The above table exhibits the total number of births, marriages, and deaths recorded in this office since the registration law commenced operations.

Respectfully submitted,

JOHN E. ADDICKS,  
*Health Officer.*

Attest:

GEO. E. CHAMBERS,  
*Registrar.*